

52451
GREATER TORONTO AREA

3Rs ANALYSIS

SOCIAL ENVIRONMENT TECHNICAL

APPENDIX - SCHEDULES B - E

FINAL - MAY 1994



Ministry of Environment and Energy

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SOCIAL ENVIRONMENT TECHNICAL APPENDIX SCHEDULES B - E

Prepared by Hardy Stevenson and Associates
for
Fiscal Planning and Information Management Branch
Ministry of Environment and Energy

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SCHEDULE B

System Net Effects Tables

TABLE B1.1
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 1 - Residential Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential displacement of residents from the siting of the new MRF. • Potential minor nuisance effects at the MRF, transfer stations and at drop-off depots. • Potential for odour and vermin problems at community and apartment composting facilities • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds vermin and noise associated with the centralized composting facility. May be reduced with public education and consultation and proper management of the facility. • Minor effect at reuse centres due to traffic and visual effects. • Landfill bans may lead to illegal dumping and burning. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from the siting of the new MRF. • Disruption effects from nuisances (e.g., odour, stigma) on residents, communities, community features and businesses associated with composting facility, MRF and depots. • Health concerns associated with centralized windrow composting facility and MRF may be minimized by education, consultation and proper management. • Elderly and physically challenged may have difficult time setting out material for pick-up. • Potential stigma effect in some communities due to existence of MRF and composting facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new facility is sited (MRF). • Potential for disruption effects from nuisances (e.g., odour, traffic, litter) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 3, 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> • Elderly and physically challenged may have difficulty in setting out recyclable material and using backyard composters. May also be minor nuisance effects associated with backyard composters. • Potential exposure of employees at MRF and composting facility to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. • Potential health effects on allergy sufferers, people with immuno-deficiencies, etc. from composting facility. Magnitude of effect may be minimized by proper management. • Minor occupational safety concerns with handlers of HHW. 		
Potential effects on communities	<ul style="list-style-type: none"> • Potential increase in community pride from participation in 3Rs programs. • Minor negative stigma effect on community image from illegal dumping. • Potential stigma effect in some communities due to existence of facilities. Magnitude of effect dependent on site location and management of the facility. • Potential minor traffic inconvenience in communities where materials are sorted at the truck. Effect reduced by mitigation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses:	<ul style="list-style-type: none"> • Potential displacement of community features and businesses from the siting of the new MRF. • Potential for odour and vermin problems at community and apartment composting facilities (USA Today, 1991; Biocycle, 1992). • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds vermin and noise associated with the centralized composting facility. May be reduced with public education and consultation and proper management. • Potential minor nuisance effects such as traffic, litter and noise associated with the MRF. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Potential minor nuisance effects on community features and businesses at some transfer stations, depots and reuse centres. • Potential nuisance effects on community features and businesses from traffic and hauling. Effect may be reduced by mitigation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Positive social and lifestyle effect from participating in all aspects of 3Rs (recycling, composting, etc.), people willing to do and learn more, source of personal and community pride. Potential for minor lifestyle inconveniences associated with backyard composters Minor inconveniences associated with community composting. Some residents may begin to illegally dump large goods due to lack of service. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have a positive effect, may contribute to acceptance of using repaired/second hand items rather than buying new products. Reuse centres have increased appeal and household economic benefits. Can contribute to neighbourhood cohesiveness through encouraging communal garage sales, flea markets, bazaars, etc. Promotion and education have a potential positive effect; encourages positive changes to conservator and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 225 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 1 involves fewer lifestyle inconveniences than all of the other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 1 has less potential than Systems 2-6 for maximizing positive lifestyle changes. Although a minor effect, System 1 offers fewer direct employment opportunities than Systems 4 and 6. Although a minor effect, System 1 offers fewer construction employment opportunities than Systems 4-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 225 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling bins and composters to multi-family buildings may have potential for increase in costs to tenants and landlords. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on local communities, population groups and industries who receive a disproportionate share of the negative effects from the new MRF and compost facilities and depots. Reuse centres have positive social welfare effect for lower income groups as more low cost items are made available, and it adds a potential market for these goods. 	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries and on lifestyle of residents located near to the facilities as they may be affected by nuisance effects while other residents served by the facilities are not affected. Positive effect from reuse centres for lower income groups as more low cost items available. Minor lifestyle distributional effect between multi-family and low density residents in fewer opportunities for composting. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities on residents, businesses and communities is less than that for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations from System 1 is less than that of all other Systems, except System 6, because it offers fewer opportunities for the current generation to engage in 3Rs behaviour (i.e., using resources wisely).
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect in recycling services between multi-family and low density developments. 	<ul style="list-style-type: none"> Minor positive effect through wiser use of resources and conservation of the environment for future use/enjoyment through recycling, composting and repair/reuse. Current generation pays some of the costs for changing to more sustainable behaviour, resulting in a positive future generational effect. 	<ul style="list-style-type: none"> Potential for positive distributional effects from provision of opportunities to use 3Rs services and infrastructure is less than that of all other Systems (e.g., fewest opportunities for multi-family residences).

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> · Potential positive effect of passing on a healthier environment through support for change in behaviour to repair, reuse and proper disposal. · Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. · Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B1.2
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 2 - Residential Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential displacement of residents from the siting of a new MRF. • Landfill bans may lead to illegal dumping and burning. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the centralized composting facility. May be reduced with public education and consultation and proper management of the facility. • Depots, transfer stations, reuse centres and the MRF have potential nuisance effects such as traffic, litter and noise. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Reuse centres have minor effect due to traffic and visual effects. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from siting new MRF. • Disruption effects from nuisances (e.g., odour, traffic) on residents, community features, businesses and communities associated with composting facility, MRF, depots and illegal dumping. • Elderly and physically challenged may have difficult time setting out material for pick-up. • Health concerns for residents, special & sensitive groups and employees associated with centralized windrow composting and MRFs. May be minimized by education, consultation and proper management. • Potential negative stigma effect in some communities due to existence of MRF and composting facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new facility is sited (MRF). • Potential for disruption effects from nuisances (e.g., odour, traffic, litter) on residents, community features, businesses and communities, and health concerns for some people from existing and new facilities is less than that predicted for Systems 3, 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> • Elderly and physically challenged may have difficult time setting out recyclable and compostable material. • Minor occupational safety concerns with handlers of HHW. • Potential exposure of employees at compost facility and MRF to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. • Potential health effects on allergy sufferers, people with immuno-deficiencies, etc from composting facility. Magnitude of effect may be minimized by proper siting considerations for new facilities and proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> • Potential increase in community pride from participation in all 3Rs programs. • Minor negative stigma effect on community image from illegal dumping. • Potential stigma effect in some communities because of the presence of recycling and composting facilities. • Magnitude of effects from MRF and centralized composting facility dependant on site location and facility management. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and business	<ul style="list-style-type: none"> • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with centralized composting facility. May be reduced with public education and consultation and proper management. • MRF, transfer stations and depots have potential nuisance effects such as traffic, litter and noise. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Potential displacement of community features and businesses from the siting of a new MRF. • Potential nuisance effects on community features and businesses from traffic and hauling. Effect reduced by mitigation. • Reuse centres have minor nuisance effects associated with image. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs programs have positive social and lifestyle effects, people willing to do and learn more, source of personal and community pride. Encourages positive local action. Potential for minor lifestyle inconveniences associated with backyard composters and community composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have positive effect, may contribute to acceptance of using repaired/second hand items rather than buying new products Reuse centres have increased appeal and household economic benefits. Can contribute to neighbourhood cohesiveness through support for communal garage sales, flea markets, bazaars, etc. 3Rs Promotion and Education encourages positive changes to conserver and waste diversion attitudes, emphasizing reduction and reuse. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 225 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 2 involves fewer lifestyle inconveniences than Systems 3-5. System 2 has more potential than System 1 for maximizing positive lifestyle changes. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 2 has less potential than Systems 3-5 for maximizing positive lifestyle changes. Although a minor effect, System 2 offers fewer direct employment opportunities than Systems 4 and 6. Although a minor effect, System 2 offers fewer construction employment opportunities than Systems 4-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 225 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Promotion of recycling services and some composting in multi-family buildings may lead to a potential increase in costs for landlords and tenants. Lack of service for large goods disposal may lead, in the long term, to institutions and commercial enterprises that develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries, who receive a disproportionate share of negative effects from the MRF, depots and compost facilities. Reuse centres have a potential positive social welfare effect for lower income groups as more low cost items are made available, and it adds a potential market for these goods. 	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries and on lifestyle of residents located near to the new MRF facility and depots as they may be affected by nuisance effects while other residents served by the facility are not affected. Positive lifestyle effect from reuse centres for lower income groups as more low cost items available. Minor positive effect through wiser use of resources and conservation of the environment for future use/enjoyment through recycling, composting, repair/reuse. Positive future generational effect because the current generation pays the costs for changing to more sustainable behaviour. Positive lifestyle effect by including multi-family residences in 3Rs activities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that for Systems 5 and 6. Potential for positive effect on future generations is greater than that of Systems 1 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations is less than that of Systems 3-5 because it offers fewer opportunities for the current generation to engage in 3Rs behaviour (i.e., using resources wisely). Positive distributional effect from provision of 3Rs services and infrastructure is less for this System than for Systems 3-6 (e.g., fewest opportunities for multi-family residences).
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect in recycling services between residents of multi-family and low density developments. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> · Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. · Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. · Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B1.3
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 3 - Residential/Direct Cost

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential minor nuisance effects from transfer stations and drop-off depots. • Potential for odour and vermin effects at apartments from 3 bin composting units and at community composting facilities. • Potential displacement of residents from the siting of a new MRF. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the centralized composting facility. May be reduced with public education and consultation and proper management of the facility. • Minor nuisance effects such as traffic, litter and noise from the MRF. Effects dependent on operation, type of material, sensitivity and number of people near the facility. • Reuse centres have minor effect due to traffic and visual concerns. 	<ul style="list-style-type: none"> • Potential displacement of residents and community features and businesses from siting MRF. • Minor disruption effect from nuisances (e.g., traffic, odour, scavenging animals, birds, vermin and noise) on residents and community features and businesses. Magnitude may be minimized by proper siting considerations of new MRF and proper management. • Potential health concerns for residents, special/sensitive groups and employees at MRF and composting facility. Magnitude will be minimized by proper design, control, planning, consultation and education. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new facility is sited (MRF). • Potential for disruption effects from nuisances (e.g., odour, traffic) health concerns and other nuisance effects from increased use of existing facilities and new facilities is less than that predicted for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for disruption effects (visual, vermin, negative community stigma effect) from illegal dumping and burning is greater than in all other systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> • Inconveniences and minor nuisance effects for elderly and physically challenged from recycling and composting. • Minor occupational safety concerns with handlers of HHW. • Employees at compost facility and MRF may be exposed to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. • Potential for health effects on allergy sufferers, people with immuno-deficiencies, etc. from compost facility. Magnitude of effect may be minimized by proper management. 	<ul style="list-style-type: none"> • Elderly and physically challenged may have difficult time setting out recyclable and compostable material for pick-up. • Potential negative community stigma effect due to illegal dumping and burning. • Potential negative stigma effect in some communities due to existence of MRF and composting facility. 	
Potential effects on communities	<ul style="list-style-type: none"> • Potential negative stigma effect from illegal dumping and burning of garbage as resistance to direct cost (Alderden, 1990; RIS, 1990; Thiverge, 1992; Skumatz and Zack, 1993). Mitigation and enhancement by public consultation, variable rate schemes, enforcement, expanded 3Rs, etc. should reduce effects. • Potential increase in community pride from participation, but potential minor negative community stigma effect if dumping and burning are prevalent. • MRF and compost facility may cause potential stigma effect and disruption in some communities. Magnitude of effect dependant on site location and management of the facility. • Potential negative stigma effect in some communities from reuse centres. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses.	<ul style="list-style-type: none"> • Potential for illegal dumping in waste containers of businesses and institutions due to opposition to avoidance of direct cost (Eckstram and LaBarre, 1992; Krivitz and Schmidt, 1992). • Potential minor nuisance effects on community features and businesses from traffic and hauling. • Potential for odour and vermin problems at community composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the centralized composting facility. May be reduced with public education and consultation and proper management. • Potential displacement of community features and businesses from siting of a new MRF. • Minor nuisance effects such as traffic, litter and noise at MRF, transfer station and depots on community features and businesses. Effects dependent on operation, type of material, sensitivity and number of people near the facility. • Reuse centres have minor nuisance effects associated with image. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Direct Cost could support 3Rs by encouraging residents to source separate to reduce the amount of garbage. People may spend more time diverting, compacting or dumping waste in order to avoid paying (RIS, 1990; Alderden, 1990; Krivit and Schmidt, 1992). Greater potential for people to place wrong items in Blue Box as residents maximize its use. 3Rs programs have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Variety of lifestyle inconveniences associated with composting Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have positive effect and may contribute to acceptance of using repaired/second hand items rather than buying new products. In some instances, has social welfare benefits e.g., providing reused goods to low income residents. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through supporting communal garage sales, flea markets, etc. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 225 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for a variety of lifestyle inconveniences and effects. Some resident groups (e.g. elderly, disabled) less able to alter lifestyle. People may spend more time diverting, compacting or dumping waste in order to avoid paying. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 3 has more potential than Systems 1, 2 and 6, to increase greater awareness of 3Rs and encourage a more sustainable lifestyle (e.g., source separation, recycling, composting). <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 3 has the greatest potential of all the Systems for negative lifestyle effects associated with illegal dumping and burning by households, particularly in rural areas. Although a minor effect, System 3 offers fewer direct employment opportunities than Systems 4 and 6. Although a minor effect, System 3 offers fewer construction employment opportunities than Systems 4-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential for lifestyle change (cont'd)	<ul style="list-style-type: none"> 3Rs promotion has a potentially positive effect; encourages positive changes to conserving and waste diversion attitudes; emphasizing reduction, reuse and recycling, could lead to lifestyle change. 	<p>Greater potential for people to place wrong items in Blue Box as residents maximize its use.</p>	
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 225 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increase in costs for landlords of multi-family buildings that have municipal service to provide recycling and composting services. In the long term, institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential negative distributional effect as costs for garbage collection could be not affordable for lower-income households. Negative distributional effect on some local communities, population groups and industries who receive a disproportionate share of the effects of the facilities. Reuse centres have a positive social welfare effect for lower income groups as more low cost items available, and adds a potential market for these goods. 	<ul style="list-style-type: none"> Potential negative distributional effect as costs for garbage collection could be not affordable for lower income households. Current generation pays the cost for changing to more sustainable behaviour, resulting in a positive effect for the future. Reuse activities have some positive social welfare benefits for lower income groups as more low cost items will be available. Expanding 3Rs programs to various types of residences has a positive social distributional effect. Negative social distributional effects on some communities and populations which must bear a variety of nuisance and potential health effects from facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations through implementation of 3Rs strategy is greater than that of Systems 1, 2 and 6. Potential for a positive distributional effect from increased 3Rs services is greater than that for Systems 1 and 2. Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that of Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a negative distributional effect on low income groups is greater than that for all other Systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Lifestyle inconvenience for those who must self-haul. Minor lifestyle distributional effects in level of 3Rs service between multi-family and low density development. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> • Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. • Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. • Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B1.4
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 4 - Expanded Blue Box

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential for odour and vermin problems at community and apartment composting facilities. • Landfill bans may lead to illegal dumping and burning. • Potential displacement of residents for the siting of a new MRF. • Reuse centres have minor effect due to traffic and visual effects. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with centralized composting facility. May be reduced with public education and consultation and proper management. • Minor nuisance effects such as traffic, litter and noise associated with the MRF. Effects dependent on operation, type of material, sensitivity and number of people near facility. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from siting a new MRF. • Minor disruption effects from nuisances (traffic, odour) on residents, special & sensitive groups and community features and businesses from composting facility and MRF. • Potential health concerns for residents, special & sensitive groups and employees at MRF and composting facility. • Elderly and physically challenged may have difficult time setting out recyclables and compostable material for pick-up. • Potential negative stigma effect in some communities due to existence of MRF and composting facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new facility is sited (MRF). • Potential for disruption effects from nuisances (e.g., odour, traffic, litter) from increased use of existing facilities and new facilities is less than that predicted for Systems 3,5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on the elderly and physically challenged from setting out recyclable material and using backyard composters. Minor potential occupational safety concerns with drivers handlers of HHW. Employees at compost facility may be exposed to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. Potential for health effects on allergy sufferers, people with immuno-deficiencies, etc. from compost facility. Magnitude of effect may be minimized by proper management. Potential employee health/safety concerns at MRF, transfer stations and depots. Should be minimized by mitigation. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential minor traffic inconvenience in communities where materials are sorted at the truck. Effect reduced by mitigation. Potential increase in community pride from participation in 3Rs. Minor negative stigma effect on community image from illegal dumping. Potential stigma effect and disruption in some communities from facilities. Magnitude of effect dependant on site location and management of the facility. Reuse centres have potential stigma effects in some communities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential nuisance effects on community features and businesses from traffic and hauling. Effect reduced by mitigation. • Potential for odour and vermin problems at community composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds vermin and noise associated with centralized composting facility. May be reduced with public education and consultation and proper management. • Potential displacement of community features and businesses from siting of new MRF. • Minor nuisance effects such as traffic, litter and noise from MRF, transfer stations and depots. Effects dependent on operation, type of material, sensitivity and number of features/businesses near facilities. • Reuse centres have minor nuisance effect associated with image. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs programs have a potentially positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Variety of lifestyle inconveniences with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing attitudes. Reuse centres have a positive effect and may contribute to acceptance of using repaired/second hand items rather than buying new products. In some instances, reuse centres and activities have social welfare benefits. Increased appeal and household economic benefits with future demographic changes. May contribute to neighbourhood cohesiveness: through communal garage sales, flea markets, bazaars, etc. 3Rs promotion has a potentially positive effect; encourages positive changes to conserver and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. Some residents may begin to dump large goods illegally due to a lack of service. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 250 jobs or about 0.11% of the Region's employment. Minor increase in potential direct construction employment of 75 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for lifestyle inconveniences associated with household composting. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 4 has more potential than Systems 1,2 and 6 to increase greater awareness of 3Rs and encourage a more sustainable lifestyle (e.g., source separation, recycling, composting) due to familiarity with System. Although a minor effect, System 4 offers more direct employment opportunities than Systems 1,2,3 and 5 (moderate increase). Although a minor effect, System 4 offers more construction employment opportunities than Systems 1-3. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 4 has more potential for negative lifestyle effects related to inconvenience than Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 250 jobs or about 0.11% of the Region's employment. Minor increase in potential direct construction employment of 75 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> 3Rs programs and composting may lead to increase in costs for tenants and landlords. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries, who receive a disproportionate share of effects from the facilities. Reuse centres and activities have a positive social welfare effect for lower income groups as more low cost items are available and adds a potential market for these goods. 	<ul style="list-style-type: none"> Current generation pays the cost for changing to a more sustainable behaviour, resulting in a positive future generational effect. Reuse activities have some positive social welfare benefits for lower income groups as more low cost items will be available. Expanding 3Rs programs to various types of residences has a positive social distributional effect. Negative social distributional effects on some communities and populations which must bear a variety of nuisance and potential health effects from the facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations through implementation of 3Rs strategies is greater than that of Systems 1, 2 and 6. Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that of Systems 5 and 6. Potential positive effect from distribution of 3Rs service is greater than that of Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> None compared to other Systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect between multi-family and low density development in level of 3Rs service. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> · Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. · Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. · Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B1.5
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 5 - Residential Wet/Dry

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> · Potential for odour and vermin effects at apartments (from 3 bin composting units) and at composting facilities. · Potential displacement of residents from the location of a new MRF and the wet/dry facility. · Potential for odour effects, health and safety concerns and minor nuisance effects such as traffic, litter, visual, birds, vermin and noise from wet/dry facility. These effects may be more extensive in wet/dry combined composting than in leaf and yard waste composting. · Potential for nuisance effects from the MRF. · Landfill bans may lead to illegal dumping and burning. · Reuse centres have minor effect due to traffic and visual concerns. 	<ul style="list-style-type: none"> · Potential displacement of residents, community features and businesses from siting of MRF and wet/dry composting facility. · Potential health concerns of employees at MRF and wet/dry composting facility and of people with allergies and immuno-deficiencies. · Elderly and disabled groups are likely to experience difficulties in using wet/dry carts. · Potential disruption effects from nuisances (e.g., odour, traffic) on residents, special/sensitive groups, community features and businesses from MRF and wet/dry composting facility. · Potential negative community stigma effect from facilities, in particular the wet/dry facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> · Potential for displacement of residents, community features and businesses due to siting new MRF and wet/dry composting facility is less than that predicted for System 6. · Potential for disruption effects from health concerns and nuisances (e.g., odour, traffic) on residents, communities and employees from wet/dry facility is less than that predicted for System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> · Potential for displacement of residents, community features and businesses due to siting new MRF and wet/dry composting facility is greater than that predicted for Systems 1-4. · Least convenient of all Systems, particularly for the elderly, disabled and multi-family residents.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Wet/Dry System may be very difficult for elderly and disabled groups. There may be significant nuisance effects. Minor occupational safety concerns with handlers of HHW Employees at wet/dry facility may be exposed to a variety of health and safety hazards such as HHW and sharps in "wet" stream. Hazards should be minimized by consultation and education and mitigated by proper design and control. Potential for health effects for allergy sufferers, people with immuno-deficiencies, etc. from wet/dry facility. Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from participation in composting. 		<ul style="list-style-type: none"> Potential for disruption effects from health concerns and nuisances (e.g., odour, traffic) on residents, communities, and employees from wet/dry composting facility is greater than that predicted for Systems 1-4.
Potential effects on communities	<ul style="list-style-type: none"> Potential traffic inconveniences due to the wet/dry collection system, and the increase in materials being transported. Landfill bans may lead to illegal dumping and burning. Potential for increase in community pride. Minor negative stigma effect on community image from illegal dumping. Potential stigma effect in some communities. Magnitude of effect dependent on site location and management of the facility. Reuse centres have potential stigma effect in some communities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential displacement of community features and business from the location of new MRF and wet/dry facility. • Potential nuisance effects on community features and businesses from traffic and hauling. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential for odour effects health and safety concerns and minor nuisance effects such as traffic, litter, visual, birds, vermin and noise. These effects may be more extensive in wet/dry than in leaf and yard waste composting. • Potential for nuisance effects from MRF, depots and other facilities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Potential for a variety of minor lifestyle inconveniences associated with carts. Effects may be greater in high density areas. The carts may be too large for some residents to manage during the winter. 3Rs has a positive social and lifestyle effect, people willing to do and learn more. Variety of lifestyle inconveniences with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres may have a positive effect in contributing to the acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness, through support for communal garage sales, flea markets, bazaars, etc. 3Rs promotion has potential positive effects: encourages changes to conserve and waste diversion attitudes; emphasizes reduction, recycling and reuse; can contribute to lifestyle changes. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 225 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 175 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential lifestyle inconveniences (difficult to move in winter, waste sticking to cart, etc.) for all residents associated with the wet/dry carts. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 5 has more potential than Systems 1, 2 and 6 for positive social and lifestyle effects as residents learn the operation of the System and realize the potential for higher waste diversion. Although a minor effect, System 5 offers more construction employment opportunities than Systems 1-4. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 5 has the greatest potential of all the Systems for lifestyle inconveniences (i.e., associated with the wet/dry carts). Although a minor effect, System 5 offers fewer direct employment opportunities than Systems 4 and 6.
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 225 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 175 person years (estimate). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increased costs for landlords and tenants to provide equipment for wet/dry and other recycling services. There may be a variety of nuisance effects. In the long-term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effects on local communities, population groups, and industries who receive a disproportionate share of related nuisance effects from MRF and wet/dry facility. Reuse centres have positive social welfare benefit effect for lower income groups as more low cost items are made available and adds a potential market for these goods. 	<ul style="list-style-type: none"> Potential positive effect for future generations because of more sustainable use of resources and conservation of the environment for future use/enjoyment. Negative social distributional effects on some communities and population groups which bear a variety of nuisance and potential health effects for the MRF and wet/dry facility. Potential for minor difference in lifestyle effects between high density and low density developments in level of service. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive social distributional effect is greater than that for Systems 1 and 2, as System 5 is targeted to all types of residences. Potential for positive effect on future generations because of high volume of waste diverted and conservation of the environment is greater than that for Systems 1, 2 and 6. Potential for negative distributional effect from facilities is less than that of System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities due to presence of wet/dry facility is greater than that for Systems 1-4. Potential for negative lifestyle effect on the elderly and disabled is the greatest of all the Systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Potential for minor difference in lifestyle effects between high density and low density developments in level of service. Minor lifestyle inconvenience for those who must self-haul. Potential for negative lifestyle effect on those who may have difficulty managing the 90 gallon carts (e.g., elderly, disabled). 	<ul style="list-style-type: none"> Potential for negative lifestyle effect on those who may have difficulty managing the 90 gallon carts (e.g., elderly, disabled). Positive effect from reuse centres for lower income groups as more low cost items will be available. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> • Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. • Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. • Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B1.6
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 6 - Residential Mixed Waste Processing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential minor nuisance effects from drop-off depots. • Potential for odour and vermin effects at community and apartment composting facilities. • Potential displacement of residents for the location of new MRF and Mixed Waste Processing and Composting facility. • Potential for significant odour effect from Mixed Waste Processing and Composting facility. Virtually all plants in the U.S. have significant odour problems that have led to their permanent or temporary closure. May be difficult to site. Mitigation measures may have only a limited effect. • Potential nuisance effects from traffic, litter and noise at MRF and depots. Magnitude of effects may be minimized by proper siting considerations for new facilities and proper management. • Landfill bans may lead to illegal dumping and burning. 	<ul style="list-style-type: none"> • Potential displacement of residents and community features and businesses from location of new MRF and MWPC facilities. • Potential health effects from mixed waste processing and composting facility for employees, nearby residents and those with allergies and immuno-deficiencies. • Minor disruption effects from nuisances (e.g., odour, traffic) on residents, communities, special/sensitive groups, community features from facilities. • Potential significant odour effect from MWPC facility. • Potential negative community stigma effect from all facilities, but in particular the MWPC facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for displacement of residents, special/sensitive groups, community features and businesses from the MWPC System facilities is greater than that predicted for Systems 1-5. • Potential for significant disruption effects (i.e., health concerns and nuisances such as odour, traffic) from the MWPC System facilities is greater than that predicted for Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor occupational safety concerns with drivers and handlers of HHW. Potential for significant nuisance and health effects from mixed waste processing and composting facility on allergy sufferers, people with immuno-deficiencies, etc. Potential employee health/safety concerns at MRF and significant concerns at the mixed waste processing facility. Should be minimized by mitigation. Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from composting and setting out recyclable material. 		
Potential effects on communities	<ul style="list-style-type: none"> Landfill bans may lead to illegal dumping and burning. Minor traffic inconvenience in communities if materials are sorted at the truck. Potential increase in community pride Minor negative community stigma effect on community image from illegal dumping Potential stigma effect and disruption in some communities from presence of the composting facility, MRF, depots and transfer stations. Magnitude of effect dependent on site location and management of the facility. Potential significant stigma effect in some communities due to the presence of a mixed solid waste processing and composting facility. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> Potential minor nuisance effects on community features and businesses from traffic and hauling. Potential for significant odour effect from Mixed Waste Processing and Composting facility. Virtually all plants in the U.S. have significant odour problems that have led to their permanent or temporary closure. May be difficult to site. Mitigation measures may have only a limited effect. Potential displacement of community features and businesses due to siting of MRF and mixed waste processing facility. Nuisance effects at MRF, mixed waste processing and composting centre and depots from traffic, litter and noise. Magnitude of effects may be minimized by proper siting considerations for new facilities and proper management. Potential for odour and vermin problems at community and apartment composting facilities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Most 3Rs programs have a positive social and lifestyle effect, people are willing to do and learn more, source of personal and community pride. The mixed waste processing component may have a negative effect because some people may not perceive a need to source separate. It may lead to counter-productive 3Rs lifestyle changes. Variety of lifestyle inconveniences with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse activities may have positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness: through communal garage sales, flea markets, bazaars, etc. 3Rs promotion has a potentially positive effect; encourages positive changes to conserver and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to a lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 300 jobs or about 0.13% of the Region's employment. Minor increase in potential direct construction employment of 400 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for negative social and lifestyle effect if people do not source separate. Increased amount of materials from mixed waste processing will lead to improved economies of scale for recycling industries. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Although a minor effect, System 6 offers significantly more direct employment opportunities than Systems 1-5 (significant increase). System 6 has greater potential to increase economic development than Systems 1-5. The System should substantially increase the amount of materials recovered, therefore improving economies of scale for many recycling industries. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for contamination of the recyclable stream is greater in System 6 than in all the other Systems. System 6 is the least likely of all the Systems to maximize positive lifestyle changes related to 3Rs.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 300 jobs or about 0.13% of the Region's employment. Minor increase in potential direct construction employment of 400 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increase in costs for tenants and landlords to provide 3Rs service. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential negative distributional effect due to disproportionate share of impacts on some local communities, population groups and industries associated with the Mixed Waste Processing and Composting facility and other facilities. Reuse centres have a positive social welfare effect for lower income groups as more low cost items are made available and adds a potential market for these goods. Potential positive social distributional effects from the inclusion of all types of residences in the System. 	<ul style="list-style-type: none"> Positive effect from reuse centres for lower income groups as more low cost items will be available. Negative distributional lifestyle and quality of life effect on some local communities, population groups and industries located near MWPC facility. Positive social distributional effects likely because System is targeted to all types of residences. Current generation pays cost for changing to more sustainable behaviour, resulting in a positive effect for the future. Potential positive effect on future generations because of wiser use of resources and conservation of the environment for future use/enjoyment. May be off-set due to reduction in 3Rs behaviour by individuals. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive social distributional effect is the greatest of all the Systems because System 6 is targeted to all types of residences. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 6 has the greatest negative potential effect on future generations of all the Systems, due to the potential for residents to reduce or stop separating material; it has the potential for change to less sustainable behaviour. Of all the Systems, System 6 has the most significant negative distributional effects due to facilities.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect between multi-family and low density development. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect through the wiser use of resources for the use and enjoyment of future generations with current generation paying the cost of reclaiming materials. Potential negative effect due to potential for residents to stop separating material and change to less sustainable behaviour. 		

TABLE B2.1
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 1 - Residential Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential minor nuisance effects from drop-off depots. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the six centralized composting facilities. Effects may be reduced with public education and consultation and proper management of the facility. • Potential displacement of residents for siting of new Regional MRF. • Landfill bans may lead to illegal dumping and burning. • Reuse centres have minor effect due to traffic and visual effects. • Minor nuisance effects such as traffic, litter and noise associated with the four MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from the siting of the new MRF. • Disruption effects from nuisances (e.g., odour, traffic) on residents, communities, community features and businesses associated with composting facilities, MRFs, depots and illegal dumping. • Health concerns associated with centralized windrow composting facilities and MRF may be minimized by education, consultation and proper management. • Elderly and physically challenged may have a difficult time setting out material for pick-up. • Potential stigma effect in some communities due to existence of MRFs and composting facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 2-6 since only one new facility is sited (MRF). • Potential for disruption effects from nuisances (e.g., odour, traffic, litter) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 3,5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on the elderly and physically challenged from setting out recyclable material and using backyard composters. Minor occupational safety concerns with drivers and handlers of HHW. Potential exposure of employees at MRFs and composting facilities to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. Potential health effects on allergy sufferers, people with immuno-deficiencies, etc. from compost facilities. Magnitude of effect may be minimized by proper management. Potential employee health and safety concerns at MRFs, transfer stations and depots. Should be minimized by mitigation. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential increase in community pride from participation. Minor negative stigma effect on community image from illegal dumping because of need for self-haul. Potential stigma effect in some communities due to facilities. Magnitude of effect dependent on site location and management of facilities. Potential minor traffic inconvenience in communities where materials are sorted at the truck. Effect reduced by mitigation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential displacement of community features and businesses for siting of new Regional MRF. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds vermin and noise associated with the 6 centralized composting facilities. Effects may be reduced with public education and consultation and proper management of the facility. • Potential minor nuisance effects such as traffic, litter and noise at the 4 MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Potential for odour and vermin problems at community composting facilities. • Potential nuisance effects on community features and businesses from traffic and hauling. Effect reduced by mitigation. • Potential minor nuisance effects on community features and businesses at some transfer stations, depots and reuse centres. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Potential for minor lifestyle inconveniences associated with backyard composters. Minor inconveniences associated with community composting. Some residents may begin to dump large items illegally due to lack of service. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres may have a positive social welfare effect and may contribute to acceptance of using repaired/second hand items rather than buying new products. Reuse centres have increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through encouraging communal garage sales, flea markets, bazaars, etc. 3Rs has potentially positive effect; encourages positive changes to conserve and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 1350 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 25 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 1 involves fewer lifestyle inconveniences than all of the other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 1 has less potential than Systems 2-6 for maximizing positive lifestyle changes. Although a minor effect, System 1 offers fewer direct employment opportunities than Systems 3-6. Although a minor effect, System 1 offers fewer construction employment opportunities than Systems 2-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the system of 1350 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 25 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling bins and composters to multi-family buildings may have potential for increase in costs to tenants and landlords. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on local communities, population groups and industries who receive a disproportionate share of the effects from the MRFs, transfer stations, depots and composting sites. Reuse centres have a positive social welfare effect for lower income groups as more low cost items are made available, and it adds a potential market for these goods. 	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries and on lifestyle of residents located near facilities as they may be affected by nuisance effects while other residents served by the facilities are unaffected. Reuse activities have some positive social welfare benefits for lower income groups as more lower cost items are available. Minor lifestyle distributional effect between multi-family and low density residents in fewer opportunities for composting. Minor positive effect through wiser use of resources and conservation of the environment for future use/enjoyment through recycling, composting and repair/reuse. Current generation bears the costs for changing to more sustainable behaviour, resulting in a positive future generational effect. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities on residents, businesses and communities is less than that for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations from System 1 is less than that of all other Systems, except System 6, because it offers fewer opportunities for the current generation to engage in 3Rs behaviour (i.e., using resources wisely). Potential for positive distributional effects from provision of opportunities to 3Rs services and infrastructure is less than that of all other Systems (e.g., fewest opportunities for multi-family residences).
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle distributional effect between multi-family and low density development in level of 3Rs service. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> • Potential positive effect of passing on a healthier environment through support for change in behaviour to repair, reuse and proper disposal. • Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. • Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B2.2
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 2 - Residential Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1: Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Potential displacement of residents from the siting of the new MRF. Landfill bans may lead to illegal dumping and burning. Potential for odour and vermin problems at community and apartment composting facilities. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the six centralized composting facilities and the leaf and yard waste bunkers. May be reduced with public education and consultation and proper management of the facility. Reuse centres have minor effect due to traffic and visual effects. Potential nuisance effects such as traffic, litter and noise from the four MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. 	<ul style="list-style-type: none"> Potential displacement of residents, community features and businesses from the siting of the new MRF. Disruption effects from nuisances (e.g., odour, traffic) on residents, community features, businesses and communities associated with composting facilities MRF, depots and illegal dumping. Health concerns associated with centralized windrow composting facilities and MRFs may be minimized by education, consultation and proper management. Elderly and physically challenged may have difficulty setting out material for pick-up. Potential stigma effect in some communities due to existence of MRFs and composting facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6. Potential for disruption effects from nuisances (e.g., odour, traffic, litter) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 3,5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on the elderly and physically challenged from setting out recyclable material and using backyard composters. Minor occupational safety concerns with drivers and handlers of HHW. Potential exposure of employees at compost facilities, MRFs, transfer stations, leaf and yard waste bunkers and depots to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. Potential health effects on allergy sufferers, people with immuno-deficiencies, etc. from composting facilities. Magnitude of effect may be minimized by proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential increase in community pride from participation. Minor negative stigma effect on community image from illegal dumping. Potential stigma effect in some communities because of the presence of recycling and composting facilities. Magnitude of effect dependant on site location and management of the facility. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential nuisance effects on community features and businesses from traffic and hauling. Effect reduced by mitigation. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the six centralized composting facilities and the leaf and yard waste bunkers. May be reduced with public education and consultation and proper management. • Potential for odour and vermin problems at community composting facilities. • Potential nuisance effects such as traffic, litter and noise from the four MRFs, transfer stations and depots. Effects dependent on operation, type of material, sensitivity and number of features/businesses near facilities. • Potential displacement of features/businesses from the siting of the new MRF. • Reuse centres have minor nuisance effects associated with image. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs programs have positive social and lifestyle effects, people willing to do and learn more, source of personal and community pride. Potential for minor lifestyle inconveniences associated with backyard composters and community composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Some residents may begin to dump large goods illegally. Reuse centres have positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through support for communal garage sales, flea markets, bazaars, etc. 3Rs promotion and education has potentially a positive effect; encourages changes to conserver and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 1,350 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 2 involves fewer lifestyle inconveniences than Systems 3-5. System 2 has more potential than System 1 for maximizing positive lifestyle changes. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 2 has less potential than Systems 3-5 for maximizing positive lifestyle changes. Although a minor effect, System 2 offers fewer direct employment opportunities than Systems 3-6. Although a minor effect, System 2 offers fewer construction employment opportunities than Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 1,350 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling services and some composting in multi-family buildings may lead to potential increases in costs for landlords and tenants. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods that are difficult to dispose of. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries, who receive a disproportionate share of effects from the MRFs, transfer stations, depots, composting facilities and the leaf and yard waste bunkers. Reuse centres have a potential positive social welfare effect for lower income groups as more low cost items are made available, and adds a potential market for these goods. 	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries and on lifestyle of residents located near facilities as they may be affected by nuisance effects while other residents served by the facility are unaffected. Positive lifestyle effect by incorporating a larger proportion of high rise households in 3Rs service. Minor positive effect through more sustainable use of resources and conservation of the environment for future use/ enjoyment through recycling, composting, repair/reuse. Current generation pays the costs for changing to more sustainable behaviour, resulting in a positive future generational effect. Reuse activities have some positive social welfare benefits for low income groups as more lower cost items are available. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that for Systems 5 and 6. Potential for positive effect on future generations is greater than that of Systems 1 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations from System 2 is less than that of Systems 3-5 because it offers fewer opportunities for the current generation to engage in 3Rs behaviour (i.e., using resources wisely). Positive distributional effect from provision of 3Rs services and infrastructure is less for this System than for Systems 3-6 (e.g., fewest opportunities for multi-family residences).

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle distributional effect between residents of multi-family and low density developments. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B2.3
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 3 - Residential Direct Cost

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential for odour and vermin effects at apartments from 3 bin composting units and at community composting facilities. • Potential displacement of residents from the siting of the new MRF. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the six centralized composting facilities and the leaf and yard waste bunkers. May be reduced with public education and consultation and proper management of the facility. • Potential minor nuisance effects such as traffic, litter and noise from the four MRFs, transfer stations and depots. Effects dependent on operation, type of material, sensitivity and number of people near the facility. • Reuse centres have minor effect due to traffic and visual effects. 	<ul style="list-style-type: none"> • Potential displacement of residents and community features and businesses from siting a new MRF. • Minor disruption effect from nuisances (e.g., odour, scavenging animals, birds, vermin and noise) on residents and community features and businesses. Magnitude may be minimized by proper siting considerations for new facilities and proper management. • Potential health concerns for residents, special/sensitive groups and employees at MRFs and composting facilities. Magnitude may be minimized by proper design, control, planning, consultation and education. • Potential stigma effect in some communities due to existence of MRFs, composting facilities and illegal dumping and burning. • Elderly and physically challenged may have a difficult time setting out material for pick-up. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6. • Potential for disruption effects from nuisances (e.g., odour, traffic) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for disruption effects (visual, vermin, negative community stigma effect) from illegal dumping and burning is greater than in all other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from setting out recyclable material and using backyard composters. Minor occupational safety concerns with drivers and handlers of HHW. Employees at MRFs, transfer stations, depots, leaf and yard waste bunkers and compost facilities may be exposed to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. Potential for health effects on allergy sufferers, people with immuno-deficiencies, etc from compost facilities and leaf and yard waste bunkers. Magnitude of effect may be minimized by proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential for illegal dumping/burning as resistance to direct cost (Alderden, 1990; RIS, 1990; Thiverge, 1992; Skumatz and Zack, 1993). Mitigation and enhancement by public consultation, variable rate schemes, enforcement, expanded 3Rs, etc. should reduce effects. Potential increase in community pride from participation, but potential for minor negative stigma effect if dumping and burning are prevalent. Potential stigma effect in some communities from presence of facilities. Magnitude of effect dependant on site location and management of the facility. Reuse centres have potential negative stigma effect in some communities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential for illegal dumping in waste containers of businesses and institutions due to opposition to direct cost (Eckstram and LaBarre, 1992; Krivitz and Schmidt, 1992). • Potential minor nuisance effects on community features and businesses from traffic and hauling. Effect reduced by mitigation. • Potential for odour and vermin problems at community composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the six centralized composting facilities and the leaf and yard waste bunkers. Effects may be reduced with public education and consultation and proper management. • Potential displacement of community features and businesses from the siting of a new MRF. • Potential minor nuisance effects such as traffic, litter and noise from the four MRFs, transfer stations and depots on community features and businesses. Effects dependent on operation, type of material, sensitivity and number of people near the facility. • Reuse centres have minor nuisance effect associated with image. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Direct Cost could support 3Rs by encouraging residents to source separate to reduce the amount of garbage. People may spend more time diverting, compacting or dumping waste in order to avoid paying (RIS, 1990; Alderden, 1990; Krivit and Schmidt, 1992). Greater potential for people to place wrong items in Blue Box as residents maximize its use. 3Rs and composting have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Variety of lifestyle inconveniences associated with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Some residents may begin to dump large goods illegally due to a lack of service. Reuse centres have positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. In some instances, has social welfare benefits, e.g., provides reused goods to low income residents. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through support for communal garage sales, flea markets, bazaars, etc. 3Rs promotion has potentially positive effect; encourages positive changes to consumer and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 1,525 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 75 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Greater potential for people to place wrong items in Blue Box as residents maximize its use. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 3 has more potential than Systems 1, 2 and 6, to increase greater awareness of 3Rs and encourage a more sustainable lifestyle (e.g., source separation, recycling, composting). <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 3 has the greatest potential of all the Systems for negative lifestyle effects associated with illegal dumping and burning by households. Although a minor effect, System 3 offers fewer direct employment opportunities than Systems 4-6. Although a minor effect, System 3 offers fewer construction employment opportunities than Systems 4-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 1525 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 75 person years (estimate). 	<ul style="list-style-type: none"> Potential for a variety of lifestyle inconveniences and effects. Some resident groups (e.g. elderly; disabled) less able to alter lifestyle. 	
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 	<ul style="list-style-type: none"> People may spend more time diverting, compacting or dumping waste in order to avoid paying. 	
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increase in costs for landlords of multi-family buildings that have municipal service. Potential increases in costs for landlords and tenants because of requirements to provide recycling services and the possibility of providing composting units and vermicomposters. In the long term, institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> There could be a negative distributional effect as costs for garbage collection could be not affordable for lower-income households. Potential distributional effect as direct cost charges will not be applied to most multi-family households (about 50% of households). Negative distributional effect on some local communities, population groups and industries who receive a disproportionate share of the effects of the MRFs, composting sites, depots, transfer stations and leaf and yard waste bunkers. Reuse centres have positive social welfare effect for lower income groups as more low cost items are made available, and adds a potential market for these goods. 	<ul style="list-style-type: none"> Potential negative distributional effect as costs for garbage collection could not be affordable for lower income households. Current generation pays the cost for changing to more sustainable behaviour, resulting in a positive effect for the future. Reuse activities have some positive social welfare benefits effect for lower income groups as more low cost items will be available. Expanding 3Rs programs to various types of residences has a positive social distributional effect. Negative social distributional effects on some communities and populations which must bear a variety of nuisance and potential health effects from facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations through implementation of 3Rs strategy is greater than that for Systems 1, 2 and 6. Potential for a positive distributional effect from provision of increased 3Rs services is greater than that for Systems 1 and 2. Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that of Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a negative distributional effect on low income groups is greater than that for all other Systems.
Distribution of lifestyle effects	Minor lifestyle distributional effects between multi-family and low density development.		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> · Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. · Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. · Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B2.4
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 4 - Residential Expanded Blue Box

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential for odour and vermin effects at apartments from 3 bin composting units and at community composting facilities. • Landfill bans may lead to illegal dumping and burning. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the six centralized composting facilities and the leaf and yard waste bunkers. May be reduced with public education and consultation and proper management of the facility. • Reuse centres have minor effect due to traffic and visual effects. • Potential nuisance effects such as traffic, litter and noise from the four MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Potential displacement of residents from the siting of the new MRF. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from the new MRF. • Potential health concerns for residents, special & sensitive groups and employees at MRFs and composting facilities. • Minor disruption effects from nuisances (e.g., traffic, odour) on residents, special & sensitive groups and community features and businesses. Magnitude may be minimized by proper siting considerations for new facilities and proper management. • Elderly and physically challenged may have difficult time setting out recyclables and compostable material for pick-up. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6. • Potential for disruption effects from nuisances (e.g., odour, traffic, litter) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 3,5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from setting out recyclable material and using backyard composters. Minor occupational safety concerns with drivers and handlers of HHW. Potential exposure of employees at compost facilities, MRFs, transfer stations, leaf and yard waste bunkers and depots to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. Potential health effects on allergy sufferers, people with immuno-deficiencies, etc. from composting facilities and leaf and yard waste bunkers. Magnitude of effect may be minimized by proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential increase in community pride from participation. Minor negative stigma effect on community image from illegal dumping. Potential stigma effect in some communities because of presence of recycling and composting facilities. Magnitude of effect dependent on site location and management of the facility. Reuse centres have potential stigma effect in some communities. Potential minor traffic inconvenience in communities where materials are sorted at the truck. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features	<ul style="list-style-type: none"> • Potential displacement of community features and businesses from the siting of the new MRF. • Potential nuisance effects on community features and businesses from traffic and hauling. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the six centralized composting facilities and the leaf and yard waste bunkers. May be reduced with public education and consultation and proper management. • Reuse centres have minor nuisance effect associated with image. • Potential nuisance effects such as traffic, litter and noise from the four MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs programs have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Potential for minor lifestyle inconveniences associated with backyard composters. Variety of lifestyle inconveniences associated with all types of composting. Minor inconveniences associated with community composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Some residents may begin to dump large goods illegally due to lack of service. Reuse centres have positive effect and may contribute to acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through support for communal garage sales, flea markets, bazaars, etc. 3Rs promotion has potentially positive effect; encourages changes to consumer and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 1,650 jobs or about 0.11% of the Region's employment. Minor increase in potential direct construction employment of 100 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for lifestyle inconveniences associated with household composting. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 4 has more potential than Systems 1,2 and 6 to increase greater awareness of 3Rs and encourage a more sustainable lifestyle (e.g., source separation, recycling, composting) due to familiarity with System. Although a minor effect, System 4 offers more direct employment opportunities than Systems 1 and 2 (significant increase) and Systems 3 and 5 (low increase). Although a minor effect, System 4 offers more construction employment opportunities than Systems 1-3. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 4 has more potential for negative lifestyle effects related to inconvenience than Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 1,650 jobs or about 0.11% of the Region's employment. Minor increase in potential direct construction employment of 100 person years (estimate). 	<ul style="list-style-type: none"> Potential for a minor short term economic and employment benefit/increase in the construction sector. 	
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 	<ul style="list-style-type: none"> Potential increase in community pride as people are encouraged to do and learn more. 	
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increases in costs for landlords and tenants because of requirements to provide recycling services and the possibility of providing composting units and vermicomposters. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods that are difficult to dispose of. 	<ul style="list-style-type: none"> Potential increase in costs for tenants because of implementation of 3Rs Systems in multi-family buildings. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries, who receive a disproportionate share of effects from the MRFs, transfer stations, depots, composting facilities and the leaf and yard waste bunkers. Reuse centres have a potential positive effect for lower income groups as more low cost items available and adds potential market for these goods. 	<ul style="list-style-type: none"> Current generation bears the cost for changing to a more sustainable behaviour, results in positive future generational effect. Positive effect from reuse centres for lower income groups as more low cost items will be available. Expanding 3Rs programs to various types of residences has a positive social distributional effect. Negative social-distributional effects on some communities and populations which must bear a variety of nuisance and potential health effects from the facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations through implementation of 3Rs strategies is greater than that of Systems 1, 2 and 6. Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that of Systems 5 and 6. Potential positive effect from distribution of 3Rs service is greater than that of Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> None compared to other Systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle distributional effects between multi-family and low density development in level of 3Rs service. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B2.5
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 5 - Residential Wet/Dry

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential for odour and vermin effects at apartments (from 3 bin composting units) and at composting facilities. • Potential displacement of residents for the siting of the new MRF and the centralized wet/dry composting facility. • Potential for odour effects health and safety concerns and minor nuisance effects such as traffic, litter, visual, birds, vermin and noise from the centralized composting facility and leaf and yard waste bunkers. These effects may be more extensive in wet/dry combined composting than in leaf and yard waste composting. • Potential for odour effects, health and safety concerns, and minor nuisance effects from the four MRFs and depots. These effects may be more extensive in a wet/dry system than with other facilities, because of potential for contamination. • Reuse centres have minor effect due to traffic and visual effects. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from siting of MRF and wet/dry composting facility. • Potential health concerns of employees at MRFs and wet/dry composting facility and of people with allergies and immuno-deficiencies. • Potential disruption effects from nuisances (e.g., odour, traffic) on residents, special/sensitive groups, community features and businesses from MRF and wet/dry facility. • Elderly and physically challenged may have a difficult time in using wet/dry carts. • Potential negative community stigma effect from facilities, in particular the wet/dry facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement of residents, community features and businesses due to siting new MRF and wet/dry facility is less than that predicted for System 6. • Potential for disruption effects from health concerns and nuisances (e.g., odour, traffic) on residents, communities and employees from wet/dry facility is less than that predicted for System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for displacement of residents, special/sensitive groups, community features and businesses and communities due to siting new MRF and wet/dry facility is greater than that predicted for Systems 1-4. • Potential for disruption effects from health concerns and nuisances (e.g., odour, traffic) on residents, communities and employees from wet/dry system facilities is greater than that predicted for Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from participation in composting. Wet/Dry System may be very difficult for elderly and disabled groups, particularly in higher density areas (townhouses, low rises) where space is limited. Minor occupational safety concerns with drivers and handlers of HHW. Employees at MRFs and in particular at the wet/dry facility may be exposed to a variety of health and safety hazards such as HHW and sharps in "wet" stream. Hazards should be minimized by consultation and education and mitigated by proper design and control, and appropriate clothing and management for the employees. Potential for health effects (odours) for allergy sufferers, people with immuno-deficiencies, etc. from wet/dry facility and leaf and yard waste bunkers. Magnitude of effect may be minimized by proper management. 		Least convenient of all Systems, particularly for the elderly, disabled and multi-family residents.
Potential effects on communities	<ul style="list-style-type: none"> Potential traffic inconveniences due to the wet/dry collection system, and increase in materials being transported. Potential for increase in community pride through participation in all aspects of 3Rs. Minor negative stigma effect on community image from illegal dumping of large items. Potential stigma effect in some communities from the presence of facilities. Magnitude of effect dependent on site location and management of the facility. This effect may be greater with a "wet" composting facility than with other facilities. Reuse centres have potential stigma effect in some communities. Landfill bans may lead to illegal burning and dumping. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential displacement of community features and businesses for the siting of the new MRF, and centralized wet/dry composting facility. • Potential nuisance effects on community features and businesses from traffic and hauling. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential for nuisance effects from drop-off depots and transfer stations. • Potential for odour effects health and safety concerns and minor nuisance effects such as traffic, litter, visual, birds, vermin and noise from the centralized composting facility and leaf and yard waste bunkers. These effects may be more extensive in wet/dry combined composting than in leaf and yard waste composting. • Potential for odour effects, health and safety concerns, and minor nuisance effects from the 4 MRFs. These effects may be more extensive in a wet/dry system than with other facilities, because of potential for contamination. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Potential for a variety of minor lifestyle inconveniences associated with the wet/dry carts. Effects may be greater in high density areas. The carts may be too large for some residents to manage during the winter. 3Rs has probably a positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Variety of lifestyle inconveniences with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres may have a positive effect in contributing to the acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness, through support for communal garage sales, flea markets, bazaars, etc. 3Rs promotion has potential positive effects: encourages changes to conserver and waste diversion attitudes; emphasizes reduction, recycling and reuse; can contribute to lifestyle changes. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 1,600 jobs or about 0.11% of the Region's employment. Minor increase in potential direct construction employment of 350 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential lifestyle inconveniences (difficult to move in winter, waste sticking to cart, etc.) for all residents associated with the wet/dry carts. Minor increase in direct construction employment of about 340 person years. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 5 has more potential than Systems 1, 2 and 6 for positive social and lifestyle effects as residents learn the operation of the System and realize the potential for higher waste diversion. Although a minor effect, System 5 offers more direct employment opportunities than Systems 1-3 (low-moderate increase). <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 5 has the greatest potential of all the Systems for lifestyle inconveniences (i.e., associated with the wet/dry carts). System 5 has the greatest potential for the most significant operational changes and added costs in implementing a wet/dry system in low rise and high rise apartments. Although a minor effect, System 5 offers fewer direct employment opportunities than Systems 4 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 1,600 jobs or about 0.11% of the Region's employment. Minor increase in potential direct construction employment of 350 person years (estimate). 	<ul style="list-style-type: none"> Annual direct employment for the System of about 1525 jobs or about 0.1 percent of the Region's employment. Primarily in low skill jobs. 	
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 	<ul style="list-style-type: none"> Minor direct economic benefits from capital expenditures and wages and salaries. Magnitude of effect uncertain. 	
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of wet/dry bins and recycling bins in multi-family buildings will potentially lead to increased costs for landlords and tenants. There may be a variety of nuisance effects resulting from this program. In the long-term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effects on local communities, population groups, and industries who receive a disproportionate share of related nuisance effects from the MRFs and wet/dry facility. Reuse centres have positive social welfare benefit effect for lower income groups, as more low cost items are made available and adds a potential market for these goods. 	<ul style="list-style-type: none"> Potential positive effect for future generations because of more sustainable use of resources and conservation of the environment for future use/enjoyment. Negative social distributional effects on some communities and population groups which bear a variety of nuisance and potential health effects for the facilities. Positive effect from reuse centres for lower income groups as more low cost items will be available. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive social distributional effect is greater than Systems 1, 2 and 3, as System 5 is targeted to all types of residences. Potential for positive effect on future generations, because of high volume of waste diverted and conservation of the environment, is greater than that for Systems 1, 2 and 6. Potential for negative distributional effect from facilities is less than that of System 6.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Potential for minor difference in lifestyle effects between high density and low density developments in level of service (i.e., less convenient for multi-family residents). Potential for negative lifestyle effect on those who may have difficulty managing the 90 gallon carts (e.g., elderly disabled). 	<ul style="list-style-type: none"> Potential for minor difference in lifestyle effects between high density and low density developments in level of service. Potential for negative lifestyle effect on those who may have difficulty managing the 90 gallon carts (e.g., elderly, disabled). 	<p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effect from facilities on some communities, due to presence of wet/dry facility, is greater than that for Systems 1-4.
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		<ul style="list-style-type: none"> Potential for negative lifestyle effect on the elderly and disabled is the greatest of all the Systems.

TABLE B2.6
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 6 - Residential Mixed Waste Processing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential for odour and vermin effects at community and apartment composting facilities. • Potential displacement of residents for the location of the new MRF and the two mixed waste processing and composting facilities. • Potential for significant odour effect from Mixed Waste Processing and Composting facilities. Virtually all plants in the U.S. have significant odour problems that have led to their permanent or temporary closure. May be difficult to site. Mitigation measures may have only a limited effect. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the composting facilities and the leaf and yard waste bunkers. May be reduced with public education and consultation and proper management. • Reuse centres have minor effect due to traffic and visual effects. • Potential nuisance effects such as traffic, litter and noise from MRFs and drop-off depots. Effects dependent on operation, type of material, sensitivity and number of people near facility. 	<ul style="list-style-type: none"> • Potential displacement of residents and community features and businesses from location of the new MRF and the two mixed waste processing and composting facilities. • Potential health effects from MWPC facilities for employees, nearby residents and those with allergies and immuno-deficiencies. • Minor disruption effects from nuisances (e.g., odour, traffic) on residents, communities, special/sensitive groups, community features from facilities. • Potential significant odour effect from MWPC facilities. • Potential negative community stigma effect from facilities, in particular the MWPC facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for displacement of residents, special/sensitive groups, community features and businesses from siting the new MRF and the two MWP facilities is greater than that predicted for Systems 1-5. • Potential for significant disruption effects (i.e., health concerns and nuisances such as odour, traffic) from MWPC facilities is greater than that predicted for Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from composting and setting out recyclable material. Minor occupational safety concerns with drivers and handlers of HHW. Potential for significant nuisance and health effects from the two mixed waste processing and composting facilities on allergy sufferers, people with immuno deficiencies, etc. Potential for less severe effects at composting facilities and leaf and yard waste bunkers. Potential employee health/safety concerns at the two mixed waste processing and composting facilities and other composting facilities and leaf and yard waste bunkers. <p>Should be minimized by mitigation.</p>		
Potential effects on communities	<ul style="list-style-type: none"> Minor traffic inconvenience in communities if materials are sorted at the truck Potential increase in community pride Minor negative community stigma effect on community image from illegal dumping Potential significant stigma effect in some communities due to the presence of the two mixed solid waste processing facilities. Potential stigma effect and disruption in some communities from presence of the composting facilities, MRFs, depots, leaf and yard waste bunkers and transfer stations. Magnitude of effects dependant on site location and management of the facility. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential minor nuisance effects on community features and businesses from traffic and hauling. • Potential for significant odour effect from the two Mixed Waste Processing and Composting facilities. Virtually all plants in the U.S. have significant odour problems that have led to their permanent or temporary closure. May be difficult to site. Mitigation measures may have only a limited effect. • Potential displacement of community features and businesses to locate MRF and the two mixed waste processing and composting facilities. • Nuisance effects from MRFs, transfer stations, depots and the mixed waste processing and composting facilities, other composting facilities and leaf and yard waste bunkers, include: traffic, litter and noise. Magnitude of effects may be minimized by proper siting considerations for new facilities and proper management. • Potential for odour and vermin problems at community and apartment composting facilities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Most 3Rs programs have a positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. However, the mixed waste processing component may have a negative effect because some people may not perceive a need to source separate. It may lead to counter-productive 3Rs lifestyle changes. Variety of lifestyle inconveniences with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have a positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness: through support for communal garage sales, flea markets, bazaars, etc. 3Rs promotion has a potentially positive effect; encourages positive changes to conserver and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 1,825 jobs or about 0.13% of the Region's employment. Minor increase in potential direct construction employment of 1,250 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for negative social and lifestyle effect if people do not source separate. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Although a minor effect, System 6 offers more direct employment opportunities than Systems 1-3 (significant increase) and System 4 and 5 (moderate increase). System 6 has greater potential to increase economic development than Systems 1-5. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for contamination of the recyclable stream is greater in System 6 than in all the other Systems. System 6 is the least likely of all the Systems to maximize positive lifestyle changes related to 3Rs.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 1,825 jobs or about 0.13% of the Region's employment. Minor increase in potential direct construction employment of 1,250 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling and composting services in multi-family buildings may lead to potentially increased costs for tenants and landlords. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential negative distributional effect due to disproportionate share of impacts on some local communities, population groups and industries from the two Mixed Waste Processing and Composting facilities and other facilities: composting sites, MRFs, leaf and yard waste bunkers, transfer stations and depots. Reuse centres may have a positive social welfare effect for lower income groups as more low cost items are made available, and adds a potential market for these goods. Potential positive social distributional effect as System is targeted to all types of residences. 	<ul style="list-style-type: none"> Positive effect from reuse centres for lower income groups as more low cost items will be available. Negative distributional lifestyle and quality of life effect on some local communities, population groups and industries located near MWPC facility. Positive social distributional effects likely because System is targeted to all types of residences. Current generation pays the cost for changing to more sustainable behaviour, results in a positive effect for the future. Potential positive effect on future generations because of wiser use of resources and conservation of the environment for future use/enjoyment. May be off-set due to potential reduction in 3Rs behaviour by individuals. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive social distributional effect is the greatest of all the Systems because System 6 is targeted to all types of residences. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 6 has the greatest negative potential effect on future generations due to the potential for residents to reduce or stop separating material; it has the potential for change to less sustainable behaviour. Of all the Systems, System 6 has the most significant negative distributional effects due to facilities.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle distributional effect between multi-family and low density development in level of 3Rs service. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect through the wiser use of resources for the use and enjoyment of future generations with current generation paying the cost of reclaiming materials. Potential negative effect due to potential for residents to stop separating material and change to less sustainable behaviour. 		

TABLE B3.1
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 1 - Residential Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential displacement of residents for siting of new Regional MRF. • Potential minor nuisance effects from drop-off depots and MRF. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the centralized composting facility. Effects may be reduced with public education and consultation and proper management of the facility. • Minor effect at reuse centres due to traffic and visual effects. • Landfill bans and regional recycling legislation may lead to illegal dumping and burning. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from the siting of the new MRF. • Disruption effects from nuisances (e.g., odour, stigma) on residents, communities, community features, businesses and associated with composting facility, MRF, depots and illegal dumping. • Health concerns associated with centralized windrow composting facility may be minimized by education, consultation and proper management. • Elderly and physically challenged may have a difficult time setting out material for pick-up. • Potential siting stigma effect in some communities due to existence of MRF and composting facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new facility is sited (MRF). • Potential for disruption effects from nuisances (e.g., odour, traffic) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> · Elderly and physically challenged may have difficulty in setting out recyclable material and in using backyard composters. · Minor occupational safety concerns with drivers and handlers of HHW. · Potential exposure of employees at MRF and composting facility to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. · Potential health effects on allergy sufferers, people with immuno-deficiencies, etc. from compost facility. Magnitude of effect may be minimized by proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> · Potential increase in community pride from participation. · Minor negative stigma effect on community image from illegal dumping. · Potential stigma effect in some communities due to MRF and compost facility. Magnitude of effect dependent on site location and management of facilities. · Potential minor traffic inconveniences in communities where materials are sorted at the truck. Effect reduced by mitigation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and business	<ul style="list-style-type: none"> • Potential for odour and vermin problems at community and apartment composting facilities (USA Today, 1991; Biocycle, 1992). • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds vermin and noise associated with centralized composting facility. Effects may be reduced with public education and consultation and proper management of the facility. • Potential displacement of community features and businesses for siting of new Regional MRF. • Potential minor nuisance effects such as traffic, litter and noise at MRF. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Potential minor nuisance effects on community features and businesses at some transfer stations and depots. • Potential nuisance effects on community features and businesses from traffic and hauling. Effect may be reduced by mitigation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Potential for minor lifestyle inconveniences associated with backyard composters. Minor inconveniences associated with community composting. Some residents may begin to dump large items illegally due to landfill bans. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres may have positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. Reuse centres have increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through encouraging communal garage sales, flea markets, bazaars, etc. 3Rs has potentially positive effect; encourages positive changes to conserve and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 225 jobs or about 0.06% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 1 involves fewer lifestyle inconveniences than all of the other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 1 has less potential than Systems 2-6 for maximizing positive lifestyle changes. Although a minor effect, System 1 offers fewer direct employment opportunities than Systems 2-6. Although a minor effect, System 1 offers fewer construction employment opportunities than Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 225 jobs or about 0.06% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling bins and composters to multi-family buildings may have potential for increase in costs to tenants and landlords. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on local communities, population groups and industries who receive a disproportionate share of the negative effects from the MRF and compost facilities and depots. Reuse centres have a positive social welfare effects for lower income groups as more low cost items are made available, and it adds a potential market for these goods. 	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries and on lifestyle of residents located near to the facilities as they may be affected by nuisance effects while other residents served by the facilities are not affected. Positive effect from reuse centres for lower income groups as more low cost items available. Minor lifestyle distributional effect between multi-family and low density residents in fewer opportunities for composting. Minor positive effect through wiser use of resources and conservation of the environment for future use/enjoyment through recycling, composting and repair/reuse. Current generation pays some of the costs for changing to more sustainable behaviour, resulting in a positive future generational effect. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities on residents, businesses and communities is less than that for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations from System 1 is less than that of all other Systems, except System 6, because it offers fewer opportunities for the current generation to engage in 3Rs behaviour (i.e., using resources wisely). Potential for positive distributional effects from provision of opportunities to use 3Rs services and infrastructure is less than that of all other Systems (e.g., fewest opportunities for multi-family residences).
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect in recycling services between multi-family and low density developments. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect of passing on a healthier environment through support for change in behaviour to repair, reuse and proper disposal. Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B3.2
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 2 - Residential Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential displacement of residents from the siting of a new MRF. • Landfill bans may lead to illegal dumping and burning. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the centralized composting facility. May be reduced with public education and consultation and proper management of the facility. • Depots, transfer stations, reuse centres and the MRF have potential nuisance effects such as traffic, litter and noise. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Reuse centres have minor effect due to traffic and visual concerns. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from siting new MRF. • Health concerns for residents, special and sensitive groups and employees associated with centralized windrow composting facility and MRF. May be minimized by education, consultation and proper management. • Elderly and physically challenged may have difficult time setting out material for pick-up. • Disruption effects from nuisances (e.g., odour, traffic) on residents, community features, businesses and communities associated with and illegal dumping, composting facility, MRF and depots. • Potential negative stigma effect on neighbourhoods and communities from facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new facility is sited (MRF). • Potential for disruption effects from nuisances (e.g., odour, traffic, litter) on residents, community features, businesses and communities, and health concerns for some people from existing and new facilities is less than that predicted for Systems 3,5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> · Elderly and physically challenged may have difficult time setting out recyclable and compostable material. · Minor occupational safety concerns with drivers and handlers of HHW. · Potential exposure of employees at compost facility and MRF to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. · Potential health effects on allergy sufferers, people with immuno-deficiencies, etc from composting facility. Magnitude of effect may be minimized by proper siting considerations for new facilities and proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> · Potential increase in community pride from participation in all 3Rs programs. · Minor negative stigma effect on community image from illegal dumping. · Potential stigma effect in some communities because of the presence of recycling and composting facilities. Magnitude of effects from MRF and centralized composting facility dependent on site location and facility management. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with centralized composting facility. May be reduced with public education and consultation and proper management. • MRF, transfer stations and depots have potential nuisance effects such as traffic, litter and noise. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Potential displacement of community features and businesses from the siting of a new MRF. • Potential nuisance effect on community features and businesses from traffic and hauling. Effect reduced by mitigation. • Reuse centres have minor nuisance effects associated with image. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs programs have positive social and lifestyle effects, people willing to do and learn more, source of personal and community pride. Encourages positive local action. Potential for minor lifestyle inconveniences associated with backyard composters and community composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Some residents may begin to dump large goods illegally due to landfill bans. Reuse centres have positive effect, may contribute to acceptance of using repaired/second hand items rather than buying new products Reuse centres have increased appeal and household economic benefits. Can contribute to neighbourhood cohesiveness through support for communal garage sales, flea markets, bazaars, etc. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 250 jobs or about 0.07% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 2 involves fewer lifestyle inconveniences than Systems 3-5. System 2 has more potential than System 1 for maximizing positive lifestyle changes. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 2 has less potential than Systems 3-5 for maximizing positive lifestyle changes. Although a minor effect, System 2 offers fewer direct employment opportunities than Systems 3-6. Although a minor effect, System 2 offers fewer construction employment opportunities than Systems 3-6.
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 250 jobs or about 0.07% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling services and some composting in multi-family buildings may lead to a potential increase in costs for landlords and tenants. Lack of service for large goods disposal may lead, in the long term to institutions and commercial enterprises that develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries, who receive a disproportionate share of negative effects from the MRF, depots and compost facilities. Reuse centres have a potential positive social welfare effect for lower income groups as more low cost items are made available, and it adds a potential market for these goods. 	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries and on lifestyle of residents located near to the new MRF facility and depots as they may be affected by nuisance effects while other residents served by the facility are not affected. Positive lifestyle effect from reuse centres for lower income groups as more low cost items available. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that for Systems 5 and 6. Potential for positive effect on future generations is greater than that of Systems 1 and 6.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect in recycling services between residents of multi-family and low density developments. 	<ul style="list-style-type: none"> Minor positive effect through wiser use of resources and conservation of the environment for future use/enjoyment through recycling, composting, repair/reuse. 	<p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations is less than that of Systems 3-5 because it offers fewer opportunities for the current generation to engage in 3Rs behaviour (i.e., using resources wisely).
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 	<ul style="list-style-type: none"> Positive future generational effect because the current generation pays the costs for changing to more sustainable behaviour. Positive lifestyle effect by including multi-family residences in 3Rs activities. 	<ul style="list-style-type: none"> Positive distributional effect from provision of 3Rs services and infrastructure is less for this System than for Systems 3-6 (e.g., fewest opportunities for multi-family residences).

TABLE B3.3
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 3 - Residential Direct Cost

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Effects uncertain with regional recycling legislation. Potential displacement of residents from the siting of a new MRF. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the centralized composting facility. May be reduced with public education and consultation and proper management of the facility. Minor nuisance effects such as traffic, litter and noise from the MRF. Effects dependent on operation, type of material, sensitivity and number of people near the facility. Potential for odour and vermin effects at apartments from 3 bin composting units and at community composting facilities. Potential minor nuisance effects from transfer stations, and drop-off depots. Reuse centres have minor effect due to traffic concerns. 	<ul style="list-style-type: none"> Potential displacement of residents and community features and businesses from siting new MRF. Minor disruption effect from nuisances (e.g., traffic, odour, scavenging animals, birds, vermin and noise) on residents and community features and businesses. Magnitude may be minimized by proper siting considerations for new MRF and proper management. Potential health concerns for residents, special/sensitive groups and employees at MRF and composting facility. Magnitude may be minimized by proper design, control, planning, consultation and education. Elderly and physically challenged may have difficult time setting out recyclable and compostable materials for pick-up. Potential negative stigma community effect due to facilities and illegal dumping and burning. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new facility is sited (MRF). Potential for disruption effects from nuisances (e.g., odour, traffic) health concerns and other nuisance effects from increased use of existing facilities and new facilities is less than that predicted for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for disruption effects (visual, vermin, negative community stigma effect) from illegal dumping and burning is greater than in all other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> • Inconveniences and minor nuisance effects for elderly and physically challenged from recycling and composting. • Minor occupational safety concerns with drivers and handlers of HHW. • Employees at compost facility and MRF may be exposed to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. • Potential for health effects on allergy sufferers, people with immuno-deficiencies, etc. from compost facility. Magnitude of effect may be minimized by proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> • Potential for illegal dumping and burning of garbage as resistance to direct cost (Alderden, 1990; RIS, 1990; Thiverge, 1992; Skumatz and Zack, 1993). Mitigation and enhancement by public consultation, variable rate schemes, enforcement, expanded 3Rs, etc. should reduce effects. • Potential increase in community pride from participation, but potential minor negative community stigma effect if dumping and burning are prevalent. • MRF and compost facility may cause potential stigma effect and disruption in some communities. Magnitude of effect dependant on site location and management of the facility. • Potential negative stigma effect in some communities from reuse centres. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential for illegal dumping in waste containers of businesses and institutions due to opposition to and avoidance of direct cost (Eckstram and LaBarre, 1992; Krivitz and Schmidt, 1992). • Potential minor nuisance effects on community features and businesses from traffic and hauling. • Potential for odour and vermin problems at community composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the centralized composting facility. May be reduced with public education and consultation and proper management. • Potential displacement of community features and businesses from siting of a new MRF. • Minor nuisance effects such as traffic, litter and noise at MRF, transfer stations, and depots on community features and businesses. Effects dependent on operation, type of material, sensitivity and number of people near the facility. • Reuse centres have minor nuisance effect associated with image. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Direct Cost could support 3Rs by encouraging residents to source separate to reduce the amount of garbage. People may spend more time diverting, burning, compacting or dumping waste in order to avoid paying (RIS, 1990; Alderden, 1990; Krivitz and Schmidt, 1992). Greater potential for people to place wrong items in Blue Box as residents maximize its use. 3Rs programs have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Variety of lifestyle inconveniences associated with composting Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have positive effect and may contribute to acceptance of using repaired/second hand items rather than buying new products. In some instances, has social welfare benefits, e.g., providing reused goods to low income residents. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through supporting communal garage sales, flea markets, bazaars, etc. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 300 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 75 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for a variety of lifestyle inconveniences and effects. Some resident groups (e.g. elderly, disabled) less able to alter lifestyle. People may spend more time diverting, compacting or dumping waste in order to avoid paying. Greater potential for people to place wrong items in Blue Box as residents maximize its use. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 3 has more potential than Systems 1, 2 and 6, to increase greater awareness of 3Rs and encourage a more sustainable lifestyle (e.g., source separation, recycling, composting). <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 3 has the greatest potential of all the Systems for negative lifestyle effects associated with illegal dumping and burning by households, particularly in rural areas. Although a minor effect, System 3 offers fewer direct employment opportunities than Systems 4-6. Although a minor effect, System 3 offers fewer construction employment opportunities than Systems 5 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential for lifestyle changes (cont'd)	<ul style="list-style-type: none"> Promotion has a potentially positive effect; encourages positive changes to conserve and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. 		
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 300 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 75 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Minor direct economic benefits from capital expenditures and wages and salaries. Magnitude of effect uncertain. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increase in costs for tenants, landlords may incur additional costs in order to provide space, facilities and staff time to accommodate recycling and composting (in York Region only 10% of the residences are high and low rise). Effect may be limited by providing a variety of options for waste management. If a building currently has municipal collection service, Direct Cost System may encourage landlords and tenants to become more active. In the long term, institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> • Potential negative distributional effect as costs for garbage collection may not be affordable for lower-income households. • Negative distributional effect on some local communities, population groups and industries who receive a disproportionate share of the effects of the facilities. • Reuse centres have a positive social welfare effect for lower income groups as more low cost items available, and adds a potential market for these goods. 	<ul style="list-style-type: none"> • Potential negative distributional effect as costs for garbage collection could be proportionally higher for larger families and not affordable for lower income households. • Current generation pays the cost for changing to more sustainable behaviour, resulting in a positive effect for the future. • Reuse activities have some positive social welfare benefits for lower income groups as more low cost items will be available. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for a positive effect on future generations through implementation of 3Rs strategy is greater than that of Systems 1, 2 and 6. • Potential for a positive distributional effect from increased 3Rs services is greater than that for Systems 1 and 2.
Distribution of lifestyle effects	<ul style="list-style-type: none"> • Lifestyle inconvenience for those who must self-haul. • Minor lifestyle distributional effects in level of 3Rs service between multi-family and low density development. 	<ul style="list-style-type: none"> • Expanding 3Rs programs to various types of residences has a positive social distributional effect. • Negative social distributional effects on some communities and populations which must bear a variety of nuisance and potential health effects from facilities. 	<ul style="list-style-type: none"> • Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that of Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for a negative distributional effect on: (a) large family households and (b) low income groups is greater than that for all other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> • Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. • Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. • Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B3.4
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 4 - Expanded Blue Box

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Effects uncertain with regional recycling legislation. Potential for odour and vermin problems at community and apartment composting facilities. Landfill bans may lead to illegal dumping and burning. Potential displacement of residents for the siting of a new MRF. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with centralized composting facility. May be reduced with public education and consultation and proper management. Minor nuisance effects such as traffic, litter and noise associated with the MRF. Effects dependent on operation, type of material, sensitivity and number of people near facility. Reuse centres have minor nuisance effect due to traffic and visual concerns. 	<ul style="list-style-type: none"> Potential displacement of residents, community features and businesses from siting a new MRF. Minor disruption effects from nuisances (traffic, odour) on residents, special & sensitive groups and community features and businesses from composting facilities and MRF. Potential health concerns for residents, special and sensitive groups and employees at MRF and composting facilities. Elderly and physically challenged may have difficult time setting out recyclables and compostable material for pick-up. Potential negative stigma effect due to facilities and illegal dumping and burning. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new facility is sited (MRF). Potential for disruption effects from nuisances (e.g., odour, traffic, litter) from increased use of existing facilities and new facilities is less than that predicted for Systems 3,5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for disruption effects from nuisances (e.g., odour, traffic) from increased use of existing facilities and new facilities is greater than that predicted for Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on the elderly from setting out recyclable material and using backyard composters. Minor potential occupational safety concerns with drivers and handlers of HHW. Employees at compost facility may be exposed to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. Potential for health effects on allergy sufferers, people with immuno-deficiencies, etc. from compost facility. Magnitude of effect may be minimized by proper management. Potential employee health/safety concerns at MRF, transfer stations and depots. Should be minimized by mitigation. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential minor traffic inconvenience in communities where materials are sorted at the truck. Greater effect with expanded blue box. Effect reduced by mitigation. Potential increase in community pride from participation in 3Rs. Minor negative stigma effect on community image from illegal dumping. Potential stigma effect and disruption in some communities from facilities. Magnitude of effect dependant on site location and management of the facility. Reuse centres have potential stigma effect in some communities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> · Potential nuisance effects on community features and businesses from traffic and hauling. Effect reduced by mitigation. · Potential for odour and vermin problems at community and apartment composting facilities. · Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds vermin and noise associated with centralized composting facility. May be reduced with public education and consultation and proper management. · Potential displacement of community features and businesses from siting of new MRF. · Minor nuisance effects such as traffic, litter and noise from MRF, transfer stations and depots. Effects dependent on operation, type of material, sensitivity and number of features/businesses near facilities. · Reuse centres have minor nuisance effect associated with image 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs programs have a potentially positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Residents may become more aware of HHW and white goods management and change purchasing attitudes. Reuse centres have a positive effect and may contribute to acceptance of using repaired/second hand items rather than buying new products. In some instances, reuse centres and activities have social welfare benefits. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness: through communal garage sales, flea markets, bazaars, etc. 3Rs promotion has a potentially positive effect; encourages positive changes to conserver and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. A number of minor lifestyle effects associated with backyard composting, vermicomposters, and multi-family composters (odours, vermin, etc.) and with recycling in multi-family buildings (should not be a very significant problem in York Region). Some residents may begin to dump large goods illegally due to a lack of service. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 250 jobs or about 0.11% of the Region's employment. Minor increase in potential direct construction employment of 75 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for lifestyle inconveniences associated with household composting. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 4 has more potential than Systems 1,2 and 6 to increase greater awareness of 3Rs and encourage a more sustainable lifestyle (e.g., source separation, recycling, composting) due to familiarity with system. Although a minor effect, System 4 offers more direct employment opportunities than Systems 1,2, and 5 (significant increase) and System 3 (moderate increase). Although a minor effect, System 4 offers more construction employment opportunities than Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 4 has more potential for negative lifestyle effects related to inconvenience than Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 325 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 75 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increase in costs for tenants, landlords may incur additional costs in order to provide space, facilities and staff time to accommodate recycling and composting in multi-family buildings (in York Region only 10% of the residences are high and low rise). Effect may be limited by providing a variety of options for waste management. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries, who receive a disproportionate share of effects from the facilities. Reuse centres and activities have a positive social welfare effect for lower income groups as more low cost items are available and adds a potential market for these goods. 	<ul style="list-style-type: none"> Current generation pays the cost for changing to a more sustainable behaviour, resulting in a positive future generational effect. Reuse activities have some positive social welfare benefits for lower income groups as more low cost items will be available. 	<u>Advantages</u> <ul style="list-style-type: none"> Potential for a positive effect on future generations through implementation of 3Rs strategies is greater than that of Systems 1, 2 and 6. Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that of Systems 5 and 6. Potential positive effect from distribution of 3Rs service is greater than that of Systems 1 and 2.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect between multi-family and low density development in level of 3Rs service. 	<ul style="list-style-type: none"> Expanding 3Rs programs to various types of residences has a positive social distributional effect. Negative social distributional effects on some communities and populations which must bear a variety of nuisance and potential health effects from the facilities. 	<u>Disadvantages</u> <ul style="list-style-type: none"> None compared to other Systems.
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B3.5
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 5 - Residential Wet/Dry

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> · Potential for odour and vermin effects at apartments (from 3 bin composting units) and at composting facilities. · Potential displacement of residents from the location of a new MRF and the wet/dry facility. · Potential for odour effects, health and safety concerns and minor nuisance effects such as traffic, litter, visual, birds, vermin and noise from wet/dry facility. These effects may be more extensive in wet/dry combined composting than in leaf and yard waste composting. · Potential for nuisance effects from the MRF and other facilities. · Reuse centres have minor effect due to traffic and visual concerns. · Landfill bans may lead to illegal dumping and burning. 	<ul style="list-style-type: none"> · Potential displacement of residents, community features and businesses from siting of MRF and wet/dry composting facility. · Potential health concerns of employees at MRF and wet/dry composting facility and of people with allergies and immuno-deficiencies. · Elderly and disabled groups are likely to experience difficulties in using wet/dry carts. · Potential disruption effects from nuisances (e.g., odour, traffic) on residents, special/sensitive groups, community features and businesses from MRF and wet/dry composting facility. · Potential negative stigma effect from all facilities and in particular the wet/dry facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> · Potential for displacement of residents, community features and businesses due to siting new MRF and wet/dry composting facility is less than that predicted for System 6. · Potential for disruption effects from health concerns and nuisances (e.g., odour, traffic) on residents, communities and employees from wet/dry System facilities is less than that predicted for System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> · Potential for displacement of residents, community features and businesses due to siting new MRF and wet/dry composting facility is greater than that predicted for Systems 1-4. · Least convenient of all Systems, particularly for the elderly, disabled and multi-family residents.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from participation in composting. Minor occupational safety concerns with drivers and handlers of HHW Employees at wet/dry facility may be exposed to a variety of health and safety hazards such as HHW and sharps in "wet" stream. Hazards should be minimized by consultation and education and mitigated by proper design and control. Potential for health effects for allergy sufferers, people with immuno-deficiencies, etc. from wet/dry facility. 		<ul style="list-style-type: none"> Potential for disruption effects from health concerns and nuisances (e.g., odour, traffic) on residents, communities, and employees from wet/dry composting facility is greater than that predicted for Systems 1-4.
Potential effects on communities	<ul style="list-style-type: none"> Potential traffic inconveniences due to the wet/dry collection System, and the increase in materials being transported. Landfill bans may lead to illegal dumping and burning. Potential for increase in community pride. Minor negative stigma effect on community image from illegal dumping. Reuse centres have potential stigma effect in some communities. Potential stigma effect in some communities. Magnitude of effect dependent on site location and management of the facility 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> · Potential displacement of community features and business from the location of new MRF and wet/dry facility. · Potential nuisance effects on community features and businesses from traffic and hauling. · Potential for odour and vermin problems at community and apartment composting facilities. · Potential for odour effects health and safety concerns and minor nuisance effects such as traffic, litter, visual, birds, vermin and noise. These effects may be more extensive in wet/dry than in leaf and yard waste composting. · Potential for nuisance effects from depots, transfer stations and MRF. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> • Potential for a variety of minor lifestyle inconveniences associated with carts. Effects may be greater in high density areas. The bins may be too large for some residents to manage during the winter. • 3Rs has a positive social and lifestyle effect, people willing to do and learn more. • Variety of lifestyle inconveniences with all types of composting. • Residents may become more aware of HHW and white goods management and change purchasing behaviour. • Reuse centres may have a positive effect in contributing to the acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness, through support for communal garage sales, flea markets, bazaars, etc. • 3Rs Promotion and Education has potentially positive effects: encourages changes to conservator and waste diversion attitudes; emphasizes reduction, reuse and recycling; and can contribute to lifestyle changes. 	<ul style="list-style-type: none"> • Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. • In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. • Minor potential direct annual employment estimate for the System of 275 jobs or about 0.08% of the Region's employment. Minor increase in potential direct construction employment of 225 person years (estimate). • Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. • Potential lifestyle inconveniences (difficult to move in winter, waste sticking to cart, etc.) for all residents associated with the wet/dry carts. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • System 5 has more potential than Systems 1, 2 and 6 for positive social and lifestyle effects as residents learn the operation of the System and realize the potential for higher waste diversion. • Although a minor effect, System 5 offers more construction employment opportunities than Systems 1-4. • Although a minor effect, System 5 offers more direct employment opportunities than Systems 1 and 2 (moderate increase). <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • System 5 has the greatest potential of all the Systems for lifestyle inconveniences (i.e., associated with the wet/dry carts). • Although a minor effect, System 5 offers fewer direct employment opportunities than Systems 3, 4 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 275 jobs or about 0.08% of the Region's employment. Minor increase in potential direct construction employment of 225 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential for significant operational changes and added costs in implementing a wet/dry System in low rise and high rise apartments. Due to the low proportion of this housing type in York Region, this will not be as significant problem as in Peel or Metro. In the long-term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effects on local communities, population groups, and industries who receive a disproportionate share of related nuisance effects from MRF and wet/dry facility. Reuse centres have positive social welfare benefit effect for lower income groups as more low cost items are made available and adds a potential market for these goods. 	<ul style="list-style-type: none"> Potential positive effect for future generations because of more sustainable use of resources and conservation of the environment for future use/enjoyment. Negative social distributional effects on some communities and population groups which bear a variety of nuisance and potential health effects for the MRF and wet/dry facility. Potential for minor difference in lifestyle effects between high density and low density developments in level of service. Potential for negative lifestyle effect on those who may have difficulty managing the 90 gallon carts (e.g., elderly, disabled). Positive effect from reuse centres for lower income groups as more low cost items will be available. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive social distributional effect is greater than that for Systems 1 and 2, as System 5 is targeted to all types of residences. Potential for positive effect on future generations because of high volume of waste diverted and conservation of the environment is greater than that for Systems 1, 2 and 6. Potential for negative distributional effect from facilities is less than that of System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities due to presence of wet/dry facility is greater than that for Systems 1-4. Potential for negative lifestyle effect on the elderly and disabled is the greatest of all the Systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Potential for minor difference in lifestyle effects between high density and low density developments in level of service. Minor lifestyle inconvenience for those who must self-haul. Potential for negative lifestyle effect on those who may have difficulty managing the 90 gallon carts (e.g., elderly, disabled). 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B3.6
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 6 - Residential Mixed Waste Processing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential minor nuisance effects from drop-off depots. • Potential for odour and vermin effects at community and apartment composting facilities. • Potential displacement of residents for the location of new MRF and Mixed Waste Processing and Composting facility. • Potential for significant odour effect from Mixed Waste Processing and Composting facility. Virtually all plants in the U.S. have significant odour problems that have led to their permanent or temporary closure. May be difficult to site. Mitigation measures may have only a limited effect. • Potential nuisance effects from traffic litter and noise at MRF. Magnitude of effects may be minimized by proper siting considerations for new facilities and proper management. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with centralized composting facility. May be reduced with public education and consultation and proper management. • Landfill bans may lead to illegal burning and dumping. 	<ul style="list-style-type: none"> • Potential displacement of residents and community features and businesses from location of new MRF and MWPC facilities. • Minor disruption effects from nuisances (e.g., odour, traffic) on residents, communities, special/sensitive groups, community features from facilities. • Potential health effects from MWPC facility for employees, nearby residents, and those with allergies and immuno-deficiencies. • Potential significant odour effect from MWPC facility. • Potential negative community stigma effect from all facilities, but in particular the MWPC facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for displacement of residents, special/sensitive groups, community features and businesses from the siting of the new MRF and MWPC facility is greater than that predicted for Systems 1-5. • Potential for significant disruption effects (i.e., health concerns and nuisances such as odour, traffic) from MWPC System facilities is greater than that predicted for Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor occupational safety concerns with drivers and handlers of HHW. Potential for significant nuisance and potential health effects from mixed waste processing and composting facility on allergy sufferers, people with immuno deficiencies, etc. Potential employee health/safety concerns at MRF and significant concerns at the mixed waste processing facility. Should be minimized by mitigation. Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from composting and setting out recyclable material. 		
Potential effects on communities	<ul style="list-style-type: none"> Landfill bans may lead to illegal dumping and burning. Minor traffic inconvenience in communities if materials are sorted at the truck Potential increase in community pride Minor negative community stigma effect on community image from illegal dumping. Potential stigma effect and disruption in some communities from the presence of the composting facility, MRF, depots and transfer stations. Magnitude of effect dependent on site location and management of the facilities. Potential significant stigma effect in some communities due to the presence of a mixed solid waste processing and composting facility. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features businesses	<ul style="list-style-type: none"> • Potential minor nuisance effects on community features and businesses from traffic and hauling. • Potential for significant odour effect from Mixed Waste Processing and Composting facility. Virtually all plants in the U.S. have significant odour problems that have led to their permanent or temporary closure. May be difficult to site. Mitigation measures may have only a limited effect. • Potential displacement of community features and businesses due to siting of MRF and mixed waste processing facility. • Nuisance effects at MRF from traffic, litter and noise. Magnitude of effects may be minimized by proper siting considerations for new facilities and proper management. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds vermin and noise associated with centralized composting facility. May be reduced with public education and consultation and proper management. • Potential for odour and vermin problems at community and apartment composting facilities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Most 3Rs programs have a positive social and lifestyle effect; people willing to do and learn more, source of personal and community pride. The mixed waste processing component may have a negative effect because some people may not perceive a need to source separate. It may lead to counter-productive 3Rs lifestyle changes. Variety of lifestyle inconveniences with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse activities may have positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness: through communal garage sales, flea markets, bazaars, etc. 3Rs promotion has a potentially positive effects: encourages positive changes to conserver and waste diversion attitudes; emphasizing reduction and reuse as well as recycling; and could lead to lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 325 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 425 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for negative social and lifestyle effect if people do not source separate. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Although a minor effect, System 6 offers more direct employment opportunities than Systems 1, 2 and 5 (significant increase) and System 3 (moderate increase). System 6 has greater potential to increase economic development than Systems 1-5. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for contamination of the recyclable stream is greater in System 6 than in all the other Systems. System 6 is the least likely of all the Systems to maximize positive lifestyle changes related to 3Rs.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 325 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 425 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increase in costs for tenants and landlords to provide recycling and composting service in multi-family residences. However, this is a small percentage of York housing type. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential negative distributional effect due to disproportionate share of impacts on some local communities, population groups and industries associated with a Mixed Waste Processing and Composting facility and other facilities. Reuse centres have a positive social welfare effect for lower income groups as more low cost items are made available and adds a potential market for these goods. Potential positive social distributional effects from the inclusion of all types of residences in the System. 	<ul style="list-style-type: none"> Positive effect from reuse centres for lower income groups as more low cost items will be available. Negative distributional lifestyle and quality of life effect on some local communities, population groups and industries located near MWPC facility. Positive social distributional effects likely because System is targeted to all types of residences. Current generation pays cost for changing to more sustainable behaviour, resulting in a positive effect for the future. Potential positive effect on future generations because of wiser use of resources and conservation of the environment for future use/enjoyment. May be off-set due to reduction in 3Rs behaviour by individuals. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive social distributional effect is the greatest of all the Systems because System 6 is targeted to all types of residences. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 6 has the greatest negative potential effect on future generations of all the Systems, due to the potential for residents to reduce or stop separating material; it has the potential for change to less sustainable behaviour. Of all the Systems, System 6 has the most significant negative distributional effects due to facilities.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect between multi-family and low density development in level of 3Rs service. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect through the wiser use of resources for the use and enjoyment of future generations with current generation paying the cost of reclaiming materials. Potential negative effect due to potential for residents to stop separating material and change to less sustainable behaviour. 		

TABLE B4.1
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 1 - Residential Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential displacement of residents for siting of new Regional MRF. • Potential minor nuisance effects from drop-off depots. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects will be likely less noticeable at the two sites that are located at the landfills. Effects may be reduced with public education and consultation and proper management of the facility. • Nuisance effect at the MRF/Transfer Station and the new Regional MRF. • Minor effect at reuse centres due to traffic and visual concerns. • Landfill bans and regional recycling legislation may lead to illegal dumping and burning. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from the siting of the new MRF. • Disruption effects from nuisances (e.g., odour, stigma) on residents, communities, community features and businesses associated with composting facilities, MRFs, depots and illegal dumping. • Health concerns associated with centralized windrow facilities and MRFs may be minimized by education, consultation and proper management. • Elderly and physically challenged may have difficult time setting out material for pick-up. • Potential stigma effect in some communities due to existence of MRFs and composting facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 2-6 since only one new facility is sited (MRF). • Potential for disruption effects from nuisances (e.g., odour, traffic) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 2-6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> · Elderly and physically challenged may have difficulty in setting out recyclable material and in using backyard composters. · Minor occupational safety concerns with drivers and handlers of HHW. · Potential exposure of employees at composting facilities to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. · Potential health effects on allergy sufferers, people with immuno-deficiencies, etc. from compost facilities. Magnitude of effect may be minimized by proper siting considerations for new facilities and proper management. · Potential employee health and safety concerns at MRFs. Should be minimized by mitigation. 		
Potential effects on communities	<ul style="list-style-type: none"> · Minor negative stigma effect on community image from illegal dumping because of landfill bans, regional recycling legislation and need for self-haul. · Potential stigma effect in some communities due to MRFs. Magnitude of effect dependent on site location and management of facilities. · Potential increase in community pride from participation. · Potential minor traffic inconveniences in communities where materials are sorted at the truck. Effect reduced by mitigation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential displacement of community features and businesses for siting of new Regional MRF. May be reduced with public education and consultation and proper management. • Potential for odour and vermin problems at community and apartment composting facilities (USA Today, 1991; Biocycle, 1992). • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds vermin and noise associated with centralized composting facilities. The effects will likely be less noticeable at the two sites that are located at the landfills. Effects may be reduced with public education and consultation and proper siting and management of the facility. • Potential minor nuisance effects such as traffic, litter and noise from MRFs, transfer stations and depots. Effects dependent on operation, type of material, sensitivity and number of people near facilities. • Potential nuisance effects on community features and businesses from traffic and hauling. Effect may be reduced by mitigation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Potential for minor lifestyle inconveniences associated with backyard composters and community composting. Some residents may begin to dump large items illegally due to lack of service. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres may have positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. Reuse centres have increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through encouraging communal garage sales, flea markets, bazaars, etc. 3Rs has potentially positive effect; encourages positive changes to conserve and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 325 jobs or about 0.07% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 1 involves fewer lifestyle inconveniences than all of the other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 1 has less potential than Systems 2-6 for maximizing positive lifestyle changes. Although a minor effect, System 1 offers fewer direct employment opportunities than Systems 3-6. Although a minor effect, System 1 offers fewer construction employment opportunities than all of the other Systems.
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 325 jobs or about 0.07% of the Region's employment. Minor increase in potential direct construction employment of 50 person years (estimate). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling bins and composters to multi-family buildings may have potential for increase in costs to tenants and landlords. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on local communities, population groups and industries who receive a disproportionate share of the negative effects from the new MRF and compost facilities and depots. Reuse centres have positive social welfare effect for lower income groups as more low cost items are made available, and it adds a potential market for these goods. 	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries and on lifestyle of residents located near to the facilities as they may be affected by nuisance effects while other residents served by the facilities are not affected. Positive effect from reuse centres for lower income groups as more low cost items available. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities on residents, businesses and communities is less than that for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations from System 1 is less than that of all other Systems, except System 6, because it offers fewer opportunities for the current generation to engage in 3Rs behaviour (i.e., using resources wisely). Potential for positive distributional effects from provision of opportunities to use 3Rs services and infrastructure is less than that of all other Systems (e.g., fewest opportunities for multi-family residences).
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect between multi-family and low density development in level of 3Rs service. 	<ul style="list-style-type: none"> Minor lifestyle distributional effect between multi-family and low density residents in fewer opportunities for composting. Minor positive effect through wiser use of resources and conservation of the environment for future use/enjoyment through recycling, composting and repair/reuse. 	
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect of passing on a healthier environment through support for change in behaviour to repair, reuse and proper disposal. Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 	<ul style="list-style-type: none"> Current generation pays some of the costs for changing to more sustainable behaviour, resulting in a positive future generational effect. 	

TABLE B4.2
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 2 - Residential Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential displacement of residents from the siting of the new MRF and community recycling centres. • Landfill bans and regional recycling legislation may lead to illegal dumping and burning. • Potential nuisance effects from the seven community and apartment recycling centres and drop-off depots. • Potential for odour and vermin problems at community composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects are likely to be masked at the composting sites at the landfills. May be reduced with public education and consultation and proper management of the facility. • Reuse centres have minor effect due to traffic and visual effects. • Potential nuisance effects such as traffic, litter and noise from MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from siting new MRF and community recycling centres. • Health concerns for residents, special & sensitive groups and employees associated with centralized windrow composting facilities and MRFs. May be minimized by education, consultation and proper management. • Disruption effects from nuisances (e.g., odour, traffic) on residents, community features, businesses and communities associated with composting facilities, community recycling centres, MRFs, depots and illegal dumping. • Elderly and physically challenged may have difficult time setting out material for pick-up. • Potential negative stigma effects on neighbourhoods and communities due to facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6. • Potential for disruption effects from nuisances (e.g., odour, traffic, litter) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 3, 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for disruption effects from nuisances (e.g., odour, traffic) on residents, community features, businesses and communities and health concerns for some people from existing and new facilities is greater than that predicted for System 1.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> • Elderly and physically challenged may have difficult time setting out recyclable material for pick-up and using composters. • Minor occupational safety concerns with drivers and handlers of HHW. • Potential exposure of employees at compost facilities, MRFs, transfer stations, community recycling centres and depots to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. • Potential health effects on allergy sufferers, people with immunodeficiencies, etc. from composting facilities. Magnitude of effect may be minimized by proper siting considerations for new facilities and proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> • Potential increase in community pride from participation. • Minor negative stigma effect on community image from illegal dumping. • Potential stigma effect in some communities because of the presence of recycling and composting facilities. Magnitude of effect dependant on site location and management of the facility. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and business	<ul style="list-style-type: none"> • Potential displacement from the siting of the new MRF and community recycling centres. • Potential nuisance effects from the seven community recycling centres and drop-off depots and from increased traffic and hauling. • Potential for odour and vermin problems at community composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects are likely to be masked at the composting sites at the landfills. May be reduced with public education and consultation and proper management. • Potential for odour and vermin problems at community composting facility • Reuse centres have minor nuisance effect associated with image. • Potential nuisance effects such as traffic, litter and noise from MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Potential nuisance effects on community features and businesses from traffic and hauling. Effect reduced by mitigation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs programs have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Potential for minor lifestyle inconveniences associated with backyard composters. Minor inconveniences associated with community composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through support for communal garage sales, flea markets, bazaars, etc. 3Rs promotion has potentially positive effect; encourages changes to conserver and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. Some residents may begin to dump large goods illegally due to landfill bans. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the system of 325 jobs or about 0.07% of the Region's employment. Minor increase in potential direct construction employment of 275 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 2 involves fewer lifestyle inconveniences than Systems 3-5. System 2 has more potential than System 1 for maximizing positive lifestyle changes. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 2 has less potential than Systems 3-5 for maximizing positive lifestyle changes. Although a minor effect, System 2 offers fewer direct employment opportunities than Systems 3-6. Although a minor effect, System 2 offers fewer construction employment opportunities than Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the system of 325 jobs or about 0.07% of the Region's employment. Minor increase in potential direct construction employment of 275 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling services and some composting in multi-family buildings may lead to potential increases in costs for landlords and tenants. In the long term, institutions and commercial enterprises may develop programs to "buy back" used white goods that are difficult to dispose of. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries, who receive a disproportionate share of negative effects from the MRF, depots and compost facilities. Reuse centres have a potential positive social welfare effect for lower income groups as more low cost items are made available, and it adds a potential market for these goods. 	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries and on lifestyle of residents located near facilities as they may be affected by nuisance effects while other residents served by the facility are unaffected. Positive lifestyle effect by incorporating a larger proportion of high rise households in 3Rs service. Minor positive effect through more sustainable use of resources and conservation of the environment for future use/ enjoyment through recycling, composting, repair/reuse. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that for Systems 5 and 6. Potential for positive effect on future generations is greater than that of Systems 1 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations is less than that of Systems 3-5 because it offers fewer opportunities for the current generation to engage in 3Rs behaviour (i.e., using resources wisely). Positive distributional effect from provision of 3Rs services and infrastructure is less for this System than for Systems 3-6 (e.g., fewest opportunities for multi-family residences).
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect in recycling services between residents of multi-family and low density developments. 	<ul style="list-style-type: none"> Current generation pays the costs for changing to more sustainable behaviour, resulting in a positive future generational effect. Reuse activities have some positive social welfare benefits for low income groups as more lower cost items are available. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of system	<ul style="list-style-type: none"> • Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. • Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. • Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B4.3
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 3 - Residential Direct Cost

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Potential for odour and vermin effects at apartments from 3 bin composting units and at community composting facilities. Potential displacement of residents from the siting of a new MRF and community recycling centres. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects may be masked where the facility is located at the landfill sites. May be reduced with public education and consultation and proper management of the facility. Potential minor nuisance effects such as traffic, litter and noise from MRFs, transfer stations, depots and community recycling centres. Effects dependent on operation, type of material, sensitivity and number of people near the facility. Reuse centres have minor effect due to traffic and visual concerns. 	<ul style="list-style-type: none"> Potential displacement of residents and community features and businesses from siting new MRF and community recycling facilities. Minor disruption effect from nuisances (e.g., traffic, odour, scavenging animals, birds, vermin and noise) on residents and community features and businesses. Magnitude may be minimized by proper siting considerations for new facilities and proper management. Potential health concerns for residents, special/sensitive groups and employees at MRFs and composting facilities. Magnitude will be minimized by proper design, control, planning, consultation and education. Elderly and physically challenged may have difficult time setting out recyclable and compostable materials and using drop-off facilities and transfer stations. Potential negative community stigma effect due to facilities and illegal dumping and burning. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6. Potential for disruption effects from nuisances (e.g., odour, traffic) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for disruption effects (visual, vermin, negative community stigma effect) from illegal dumping and burning is greater than in all other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Recycling and use of composters by elderly and physically challenged may be inconvenient and have nuisance effects. Minor occupational safety concerns with handlers of HHW. Employees at MRFs, transfer stations, depots, community recycling centres and compost facilities may be exposed to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. Potential for health effects on allergy sufferers, people with immuno-deficiencies, etc from compost facilities. Magnitude of effect may be minimized by proper siting considerations for new facilities and proper management. 	<ul style="list-style-type: none"> Potential stigma effect on communities and neighbourhoods. 	
Potential effects on communities	<ul style="list-style-type: none"> Potential for illegal dumping/burning as resistance to direct cost (Alderden, 1990; RIS, 1990; Thiverge, 1992; Skumatz and Zack, 1993). Mitigation and enhancement by public consultation, variable rate schemes, enforcement, expanded 3Rs, etc. could reduce effects. Potential increase in community pride from participation. Potential stigma effect in some communities from illegal dumping and burning of waste, reuse centres and presence of facilities. Magnitude of effect dependant on site location and management of the facility. Potential negative stigma effect in some communities from reuse centres. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> · Potential for illegal dumping in waste containers of businesses and institutions due to opposition to direct cost (Eckstram and LaBarre, 1992; Krivitz and Schmidt, 1992). · Potential minor nuisance effects on community features and businesses from traffic and hauling. · Potential for odour and vermin problems at community composting facilities. · Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects may be masked where the facility is located at the landfill sites. May be reduced with public education and consultation and proper management. · Potential displacement of community features and businesses from the siting of a new MRF and community recycling centres. · Potential minor nuisance effects such as traffic, litter and noise from MRFs, transfer stations, depots and community recycling centres on community features and businesses. Effects dependent on operation, type of material, sensitivity and number of people near the facility. · Reuse centres have minor nuisance effect associated with image. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Direct Cost could support 3Rs by encouraging residents to source separate to reduce the amount of garbage. People may spend more time diverting, compacting or dumping waste in order to avoid paying (RIS, 1990; Alderden, 1990; Krivitz and Schmidt, 1992). Greater potential for people to place wrong items in Blue Box as residents maximize its use. 3Rs and composting have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Variety of lifestyle inconveniences associated with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have positive effect and may contribute to acceptance of using repaired/second hand items rather than buying new products. In some instances, has social welfare benefits (e.g., provides reused goods to low income residents. May contribute to neighbourhood cohesiveness through supporting communal garage sales, flea markets, bazaars, etc. 3Rs promotion has potentially positive effect; encourages positive changes to conservator and waste diversion attitudes; emphasizing reduction, reuse and recycling, could lead to lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 400 jobs or about 0.08% of the Region's employment. Minor increase in potential direct construction employment of 300 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for a variety of lifestyle inconveniences and effects. Some resident groups (e.g. elderly, disabled). less able to alter lifestyle. People may spend more time diverting, compacting or dumping waste in order to avoid paying. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 3 has more potential than Systems 1, 2 and 6, to increase greater awareness of 3Rs and encourage a more sustainable lifestyle (e.g., source separation, recycling, composting). <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 3 has the greatest potential of all the Systems for negative lifestyle effects associated with illegal dumping and burning by households, particularly in rural areas. Although a minor effect, System 3 offers fewer direct employment opportunities than Systems 4-6. Although a minor effect, System 3 offers fewer construction employment opportunities than Systems 5 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 400 jobs or about 0.08% of the Region's employment. Minor increase in potential direct construction employment of 300 person years (estimate). 	<ul style="list-style-type: none"> Greater potential for people to place wrong items in Blue Box as residents maximize its use. 	
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 	<ul style="list-style-type: none"> Direct economic benefits are possible in 3Rs related industries. Indirect economic effects could include both short and long term changes in secondary and tertiary sectors. Over the long term this could lead to the development of marketable "green" systems, technologies and products. Magnitude of effect is uncertain. 	
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increase in costs for landlords of multi-family buildings that have municipal service. In the long term, institutions and commercial enterprises may develop programs to "buy back" used white goods. Potential increases in costs for landlords and tenants because of requirements to provide recycling services and the possibility of providing composting units and vermicomposters. 	<ul style="list-style-type: none"> Potential for a short term economic and employment benefit in the construction sector. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> There could be a negative distributional effect as costs for garbage collection may not be affordable for lower-income households. Potential distributional effect as direct cost charges will not be applied to most multi-family households (about 30% of households). Negative distributional effect on some local communities, population groups and industries who receive a disproportionate share of the effects of the MRFs, composting sites, depots, transfer stations and leaf and yard waste bunkers. Reuse centres have positive social welfare effect for lower income groups as more low cost items are made available, and adds a potential market for these goods. 	<ul style="list-style-type: none"> Potential negative distributional effect as costs for garbage collection could be proportionally higher for larger families and not affordable for lower income households. Current generation pays the cost for changing to more sustainable behaviour, resulting in a positive effect for the future. Reuse activities have some positive social welfare benefits for lower income groups as more low cost items will be available. Expanding 3Rs programs to various types of residences has a positive social distributional effect. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations through implementation of 3Rs strategy is greater than that of Systems 1, 2 and 6. Potential for a positive distributional effect from increased 3Rs services is greater than that for Systems 1 and 2. Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that of Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for a negative distributional effect on: (a) large family households and (b) low income groups is greater than that for all other Systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Lifestyle inconvenience for those who must self-haul. Minor lifestyle distributional effects in level of 3Rs service between multi-family and low density development. 	<ul style="list-style-type: none"> Negative social distributional effects on some communities and populations which must bear a variety of nuisance and potential health effects from facilities. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> · Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. · Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. · Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B4.4
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 4 - Residential Expanded Blue Box

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential displacement of residents from the siting of the new MRF and community recycling centres. • Landfill bans may lead to illegal dumping and burning. • Potential nuisance effects from the seven community recycling centres and drop-off depots and potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects are likely to be masked at the composting sites at the landfills. May be reduced with public education and consultation and proper management of the facility. • Reuse centres have minor effect due to traffic and visual effects. • Potential nuisance effects such as traffic, litter and noise from MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from siting a new MRF and community recycling facilities. • Minor disruption effects from nuisances (e.g., traffic, odour) on residents, special & sensitive groups and community features and businesses. Magnitude may be minimized by proper siting considerations for new facilities and proper management. • Potential health concerns for residents, special & sensitive groups and employees at MRF and composting facilities. • Elderly and physically challenged may have difficult time setting out recyclables and compostable material for pick-up and using drop-off facilities and transfer stations. • Potential stigma effect in some communities due to existence of MRFs and composting facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement effects due to siting new facilities is less than that predicted for Systems 5 and 6 since only one new MRF and the community recycling facilities are required. • Potential for disruption effects from nuisances (e.g., odour, traffic, litter) on residents, community features and businesses, and health concerns for some people from existing and new facilities is less than that predicted for Systems 3,5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for disruption effects from nuisances (e.g., odour, traffic) on residents, community features, businesses and communities and health concerns for some people from existing and new facilities is greater than that predicted for System 1.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> · Elderly and physically challenged may have difficult time setting out recyclable material for pick-up and using composters. · Minor occupational safety concerns with handlers of HHW. · Potential exposure of employees at compost facilities, MRFs, transfer stations, community recycling centres and depots to health and safety hazards. Should be minimized by education. Could be mitigated by proper design and control. · Potential health effects on allergy sufferers, people with immuno-deficiencies, etc. from composting facilities. Magnitude of effect may be minimized by proper siting considerations for new facilities and proper management. 		
Potential effects on communities	<ul style="list-style-type: none"> · Potential increase in community pride from participation. · Minor negative stigma effect on community image from illegal dumping. · Potential stigma effect in some communities because of the presence of recycling and composting facilities. Magnitude of effect dependant on site location and management of the facility. · Potential minor traffic inconvenience in communities where materials are sorted at the truck. Effect reduced by mitigation. · Reuse centres have potential stigma effect in some communities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential nuisance effects from the seven community recycling centres and drop-off depots. • Potential nuisance effects on community features and businesses from traffic and hauling. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects are likely to be masked at the composting sites at the landfills. May be reduced with public education and consultation and proper management. • Reuse centres have minor nuisance effect associated with image. • Potential nuisance effects such as traffic, litter and noise from MRFs. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Potential displacement of residents from the siting of the new MRF and community recycling centres. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> 3Rs programs have positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. Potential for minor lifestyle inconveniences associated with backyard composters. Variety of lifestyle inconveniences associated with all types of composting. Minor inconveniences associated with community composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have positive effect and may contribute to acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness through support for communal garage sales, flea markets, bazaars, etc. 3Rs promotion has a potentially positive effect; encourages changes to conserve and waste diversion attitudes; emphasizing reduction and reuse, as well as recycling, could lead to lifestyle change. Some residents may begin to dump large goods illegally due to a lack of service. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the System of 450 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 300 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for lifestyle inconveniences associated with household composting. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 4 has more potential than Systems 1,2 and 6 to increase greater awareness of 3Rs and encourage a more sustainable lifestyle (e.g., source separation, recycling, composting) due to familiarity with system. Although a minor effect, System 4 offers more direct employment opportunities than Systems 1 and 2 (significant increase) and System 3 (moderate increase). Although a minor effect, System 4 offers more construction employment opportunities than Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 4 has more potential for negative lifestyle effects related to inconvenience than Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 450 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 300 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential increases in costs for landlords and tenants because of requirements to provide recycling services and the possibility of providing composting units and vermicomposters. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods that are difficult to dispose of. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effect on some local communities, population groups and industries, who receive a disproportionate share of effects from the facilities. Reuse centres and activities have a positive social welfare effect for lower income groups as more low cost items are available and adds a potential market for these goods. 	<ul style="list-style-type: none"> Current generation pays the cost for changing to a more sustainable behaviour, resulting in a positive future generational effect. Reuse activities have some positive social welfare benefits for lower income groups as more low cost items will be available. Expanding 3Rs programs to various types of residences has a positive social distributional effect. Negative social distributional effects on some communities and populations which must bear a variety of nuisance and potential health effects from the facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for a positive effect on future generations through implementation of 3Rs strategies is greater than that of Systems 1, 2 and 6. Potential for negative distributional effects from facilities on residents, businesses and communities in proximity to the facilities is less than that of Systems 5 and 6. Potential positive effect from distribution of 3Rs service is greater than that of Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> None compared to other Systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Minor lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect between multi-family and low density development in level of 3Rs service. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> · Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. · Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. · Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B4.5
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 5 - Residential Wet/Dry

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential for nuisance effects from community recycling centres, drop-off depots, transfer stations and MRFs. • Potential for odour and vermin effects at apartments from 3 bin composting units and at composting facilities. • Potential displacement of residents for the siting of the new MRF, community recycling centres and centralized wet/dry composting facility. • Potential for odour effects health and safety concerns and minor nuisance effects such as traffic, litter, visual, birds, vermin and noise from the centralized. These effects may be more extensive in wet/dry combined composting than for the three leaf and yard waste composting sites. • Potential for odour effects, health and safety concerns, and minor nuisance effects from MRF. • Reuse centres have minor effect due to traffic and visual concerns. • Landfill bans may lead to illegal dumping and burning. 	<ul style="list-style-type: none"> • Potential displacement of residents, community features and businesses from siting of MRF and wet/dry composting facility. • Potential health concerns of employees at MRF and wet/dry composting facility and of people with allergies and immuno-deficiencies. • Elderly and disabled groups are likely to experience difficulties in using wet/dry carts. • Potential disruption effects from nuisances (e.g., odour, traffic) on residents, special/sensitive groups, community features and businesses from MRF and wet/dry facility. • Potential negative community stigma effect from facilities and in particular the wet/dry facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • Potential for displacement of residents, community features and businesses due to siting new MRF and wet/dry facility is less than that predicted for System 6. • Potential for disruption effects from health concerns and nuisances (e.g., odour, traffic) on residents, communities and employees from wet/dry facility is less than that predicted for System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for displacement of residents, special/sensitive groups, community features and businesses and communities, due to siting new MRF and wet/dry facility is greater than that predicted for Systems 1-4. • Potential for disruption effects from health concerns and nuisances (e.g., odour, traffic) on residents, communities and employees from wet/dry facility is greater than that predicted for Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor nuisance effects associated with odour and physical strain on elderly and physically challenged from participation in composting. Minor occupational safety concerns with drivers and handlers of HHW. Employees at MRFs and in particular compost facilities may be subjected to a variety of health and safety hazards such as HHW and sharps in "wet" stream. Hazards should be minimized by consultation and education and mitigated by proper design and control, and appropriate clothing and management for the employees. Potential for health effects for allergy sufferers, people with immuno-deficiencies, etc. from "wet" facility. 		<ul style="list-style-type: none"> Least convenient of all Systems, particularly for the elderly, disabled and multi-family residents.
Potential effects on communities	<ul style="list-style-type: none"> Potential traffic inconveniences due to the Wet/Dry collection system, and the increase in materials being transported. Compostables transported to one site. Reuse centres have potential stigma effect in some communities. Landfill bans may lead to illegal dumping and burning. Potential for increase in community pride through participation in all aspects of 3Rs. Minor negative stigma effect on community image from illegal dumping of large items and from the presence of facilities. Magnitude of effect dependent on site location and management of the facility. This effect may be greater with a "wet" composting facility than with other facilities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> • Potential displacement of community features and businesses for the siting of the new MRF, community recycling centres and centralized wet/dry composting facility. • Potential nuisance effects on community features and businesses from traffic and hauling. • Potential for odour and vermin problems at community and apartment composting facilities. • Potential for nuisance effects from community recycling centres, drop-off depots, transfer stations and MRFs. • Potential for odour effects health and safety concerns and minor nuisance effects such as traffic, litter, visual, birds, vermin and noise from the centralized composting facilities. These effects may be more extensive in wet/dry combined composting than in leaf and yard waste composting. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> • Potential for a variety of minor lifestyle inconveniences associated with carts. Effects may be greater in high density areas. The bins may be too large for some residents to manage during the winter. • 3Rs has probably a positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. • Variety of lifestyle inconveniences with all types of composting. • Residents may become more aware of HHW and white goods management and change purchasing behaviour. • Reuse centres may have a positive effect in contributing to the acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness, through support for communal garage sales, flea markets, bazaars, etc. • 3Rs Promotion and Education has potentially positive effects: encourages changes to conserve and waste diversion attitudes; emphasizes reduction, recycling and reuse; and can contribute to lifestyle changes. 	<ul style="list-style-type: none"> • Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. • In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. • Minor potential direct annual employment estimate for the System of 450 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 475 person years (estimate). • Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. • Potential lifestyle inconveniences (difficult to move in winter, waste sticking to cart, etc.) for all residents associated with the wet/dry carts. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • System 5 has more potential than Systems 1, 2 and 6 for positive social and lifestyle effects as residents learn the operation of the system and realize the potential for higher waste diversion. • Although a minor effect, System 5 offers more direct employment opportunities than Systems 1 and 2 (significant increase) and System 3 (moderate increase). • Although a minor effect, System 5 offers more construction employment opportunities than Systems 1-4. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • System 5 has the greatest potential of all the Systems for lifestyle inconveniences (i.e., associated with the wet/dry carts). • Although a minor effect, System 5 offers fewer direct employment opportunities than System 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 450 jobs or about 0.09% of the Region's employment. Minor increase in potential direct construction employment of 475 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of wet/dry bins and recycling bins in multi-family buildings will potentially lead to increased costs for landlords and tenants. There may be a variety of nuisance effects resulting from this program. In the long-term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Negative distributional effects on local communities, population groups, and industries who receive a disproportionate share of related nuisance effects from MRF and wet/dry facility. Reuse centres have positive social welfare benefit effect for lower income groups as more low cost items are made available and adds a potential market for these goods. 	<ul style="list-style-type: none"> Potential positive effect for future generations because of more sustainable use of resources and conservation of the environment for future use/enjoyment. Negative social distributional effects on some communities and population groups which bear a variety of nuisance and potential health effects for the MRF and wet/dry facility. Potential for minor difference in lifestyle effects between high density and low density developments in level of service. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive social distributional effect is greater than that for Systems 1 and 2, as System 5 is targeted to all types of residences. Potential for positive effect on future generations because of high volume of waste diverted and conservation of the environment is greater than that for Systems 1, 2 and 6. Potential for negative distributional effect from facilities is less than that of System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities due to presence of wet/dry facility is greater than that for Systems 1-4. Potential for negative lifestyle effect on the elderly and disabled is the greatest of all the Systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Potential for minor difference in lifestyle effects between high density and low density developments in level of service. Minor lifestyle inconvenience for those who must self-haul. Potential for negative lifestyle effect on those who may have difficulty managing the 90 gallon carts (e.g., elderly, disabled). 	<ul style="list-style-type: none"> Potential for negative lifestyle effect on those who may have difficulty managing the 90 gallon carts (e.g., elderly, disabled). Positive effect from reuse centres for lower income groups as more low cost items will be available. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> • Potential positive effect of passing on a healthier environment through support for change in behaviour to reduction and reuse. • Reuse centres have a positive effect through the support for repair and reuse of goods and subsequent reduction of resource use. • Positive effect as the current generation is paying the cost for changing to more sustainable behaviour, which may leave future generations with a healthier environment and more resources available. 		

TABLE B4.6
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 6 - Residential Mixed Waste Processing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> • Potential for odour and vermin effects at community and apartment composting facilities. • Potential displacement of residents for the location of the new MRF, community recycling centres and the mixed waste processing and composting facility. • Potential for significant odour effect from Mixed Waste Processing and Composting facility. Virtually all plants in the U.S. have significant odour problems that have led to their permanent or temporary closure. May be difficult to site. Mitigation measures may have only a limited effect. • Landfill bans may lead to illegal dumping and burning. • Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects are likely to be masked at the composting sites at the landfills. May be reduced with public education and consultation and proper management of the facility. • Potential nuisance effects such as traffic, litter and noise from MRFs, community recycling centres and drop-off depots. Effects dependent on operation, type of material, sensitivity and number of people near facility. • Landfill bans may lead to illegal dumping and burning. 	<ul style="list-style-type: none"> • Potential displacement of residents and community features and businesses from location of new MRF and MWPC facilities. • Potential health effects from MWPC facility for employees, nearby residents and those with allergies and immuno-deficiencies. • Minor disruption effects from nuisances (e.g., odour, traffic) on residents, communities, special/sensitive groups, community features from facilities. • Potential significant odour effect from MWPC facility. • Potential negative community stigma effect from facilities, but in particular the MWPC facility. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • None compared to other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • Potential for displacement of residents, special/sensitive groups, community features and businesses from the MWPC facility is greater than that predicted for Systems 1-5. • Potential for significant disruption effects (i.e., health concerns and nuisances such as odour, traffic) from MWPC facility is greater than that predicted for Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Minor occupational safety concerns with drivers and handlers of HHW. Potential for significant nuisance and potential health effects from mixed waste processing and composting facility on allergy sufferers, people with immuno-deficiencies, etc. Potential employee health/safety concerns at MRFs and significant concerns at the MWPC facility. Should be minimized by mitigation. Minor nuisance effects associated with odour and physical strain on the elderly and physically challenged from composting and setting out recyclable materials. 		
Potential effects on communities	<ul style="list-style-type: none"> Landfill bans may lead to illegal dumping and burning. Minor traffic inconvenience in communities if materials are sorted at the truck Potential increase in community pride Minor negative community stigma effect on community image from illegal dumping Potential significant stigma effect in some communities due to the presence of a mixed solid waste processing and composting facility. Potential stigma effect and disruption in some communities from presence of the composting facilities, MRFs, depots and transfer stations. Magnitude of effect dependant on site location and management of the facility. Potential for odour and vermin problems at community and apartment composting facilities. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features and businesses	<ul style="list-style-type: none"> Potential minor nuisance effects on community features and businesses from traffic and hauling. Potential for significant odour effect from Mixed Waste Processing and Composting facility. Virtually all plants in the U.S. have significant odour problems that have led to their permanent or temporary closure. May be difficult to site. Mitigation measures may have only a limited effect. Potential displacement of community features and businesses to locate MRF, community recycling centres and the mixed waste processing and composting facility. Nuisance effects from MRFs, community recycling centres, transfer stations, depots and the mixed waste processing and composting facility include: traffic, litter and noise. Magnitude of effects may be minimized by proper siting considerations for new facilities and proper management. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with the three centralized composting facilities. The effects are likely to be masked at the composting sites at the landfills. May be reduced with public education and consultation and proper management of the facility. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Most 3Rs programs have a positive social and lifestyle effect, people willing to do and learn more, source of personal and community pride. The mixed waste processing component may have a negative effect because some people may not perceive a need to source separate. It may lead to counter-productive 3Rs lifestyle changes. Variety of lifestyle inconveniences with all types of composting. Residents may become more aware of HHW and white goods management and change purchasing behaviour. Reuse centres have a positive effect may contribute to acceptance of using repaired/second hand items rather than buying new products. Increased appeal and household economic benefits. May contribute to neighbourhood cohesiveness: through support for communal garage sales, flea markets, bazaars, etc. 3Rs Promotion and Education has a potentially positive effect: encourages positive changes to conserver and waste diversion attitudes; emphasizing reduction and reuse as well as recycling; and could lead to a lifestyle change. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect and increase in personal and/or community pride. Potential for change in purchasing habits/attitudes and greater acceptance of using repaired/used items. In the longer term, institutions and commercial businesses may develop programs to "buy back" used white goods in response to residents' needs. Minor potential direct annual employment estimate for the system of 475 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 800 person years (estimate). Potential minor direct economic benefits related to services, and salary and wages for annual operations and construction of new facilities. Potential for negative social and lifestyle effect if people do not source separate. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Although a minor effect, System 6 offers more direct employment opportunities than Systems 1-3 (significant increase) and Systems 4 and 5 (low increase). System 6 has greater potential to increase economic development than Systems 1-5. The System should substantially increase the amount of materials recovered, therefore improving economies of scale for many recycling industries. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for contamination of the recyclable stream is greater in System 6 than in all the other Systems. System 6 is the least likely of all the Systems to maximize positive lifestyle changes related to 3Rs.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Minor potential direct annual employment estimate for the System of 475 jobs or about 0.10% of the Region's employment. Minor increase in potential direct construction employment of 800 person years (estimate). 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for a minor direct economic benefit from regional spending related to service, and salary and wages paid in annual operations and in the construction of new facilities. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Provision of recycling and composting services in multi-family buildings may lead to potentially increased costs for tenants and landlords. In the long term institutions and commercial enterprises may develop programs to "buy back" used white goods. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential negative distributional effect due to disproportionate share of impacts on some local communities, population groups and industries associated with Mixed Waste Processing and Composting facility and other facilities. Reuse centres have a positive social welfare effect for lower income groups as more low cost items are made available and adds a potential market for these goods. Potential positive social distributional effects from the inclusion of all types of residences in the System. 	<ul style="list-style-type: none"> Positive effect from reuse centres for lower income groups as more low cost items will be available. Negative distributional lifestyle and quality of life effect on some local communities, population groups and industries located near MWPC facility. Positive social distributional effects likely because System is targeted to all types of residences. Current generation pays cost for changing to more sustainable behaviour, resulting in a positive effect for the future. Potential positive effect on future generations because of wiser use of resources and conservation of the environment for future use/enjoyment. May be off-set due to reduction in 3Rs behaviour by individuals. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive social distributional effect is the greatest of all the Systems because System 6 is targeted to all types of residences. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System 6 has the greatest negative potential effect on future generations of all the Systems, due to the potential for residents to reduce or stop separating material; it has the potential for change to less sustainable behaviour. Of all the Systems, System 6 has the most significant negative distributional effects due to facilities.
Distribution of lifestyle effects	<ul style="list-style-type: none"> Lifestyle inconvenience for those who must self-haul garbage. Minor lifestyle distributional effect between multi-family and low density development in level of 3Rs service. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential future generation effects of System	<ul style="list-style-type: none"> Potential positive effect through the wiser use of resources for the use and enjoyment of future generations with current generation paying the cost of reclaiming materials. Potential negative effect due to potential for residents to stop separating material and change to less sustainable behaviour. 		

TABLE B5.1
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 1 - Residential Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Participation may be limited by a lack of opportunities for multi-family residents (less participation by high rise, high and medium density multi-family buildings). Participation in recycling and composting by single families likely to continue at the 1994 rate. Potential minor increase in proportion of households participating in leaf and yard waste collection. Leaf and yard waste drop-off will not be undertaken by many. Small increase in participation in household composting in low density residential areas. Participation in composting in multi-family residences is unknown, but expect low participation (Glenn, 1993). Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. Short term increase in shopping at reuse centres. Longer term demand for used goods uncertain. 	<ul style="list-style-type: none"> Minor increase in participation with maintenance or slight increase in positive attitudes to 3Rs with more people using backyard composters and separating out recyclables due to distribution of additional backyard composters and promotion /education program. Participation in composting activities is expected to be very low for multi-family residences. Potential future concerns about the cost and nuisance effects of leaf and yard waste collection and composting. Potential future concerns about the acceptability of MRF, transfer stations and depots, depending on location. Residents willing to pay for subsidized backyard composters, and may be more willing to purchase used goods. Municipalities appear willing to accept costs. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Residents have greater familiarity with this System. Greater than Systems 3, 5 and 6 and are likely to continue to accept it. Municipalities and residents are likely to continue to accept the costs of the System. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Least potential to encourage greater individual action and increase participation levels and rates. For those in multi-family residences, this System offers fewer 3Rs participation opportunities than Systems 2-6. This System does not promote reduction and reuse opportunities to the same extent as Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> • Attitudes toward self-haul and landfill bans uncertain, but likely not favourable. • Residential recycling has positive effect by maintaining or increasing positive attitudes to 3Rs. • General slow growth in positive attitudes to household composting. • Composting facility is likely to become less favourable if odour and health issues are not resolved in the near term. • Traffic, noise and litter issues may reduce the acceptability of the MRF, transfer stations and depots, depending on location. • 3Rs promotion likely to motivate people to participate, e.g., promote changes in shopping behaviour for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Residents and municipalities are willing to pay part of the cost of operating the collection System. The 2 percent tax increase per household (\$36) is likely to be acceptable to residents. Residents likely to continue to be willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost for composters or for those who have not purchased a composter. Uncertain of the willingness of landlords and tenants to pay for recycling bins. In the longer term, the higher costs of locating and operating a composting facility may become an issue for some people. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B5.2
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 2 - Residential Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs System	<ul style="list-style-type: none"> Greater participation throughout residential sector with largest gains in multi-family groups. Participation in backyard composting likely to remain constant. Vermicomposting likely to have low rates of participation. Short term increase in shopping at reuse centres. Longer term demand for used goods uncertain. Participation in composting in multi-family residences is unknown, but expect low participation. Participation in community composting activities expected to be low. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. Potential minor increase in proportion of households participating in leaf and yard waste collection. Leaf and yard waste drop-off will not be undertaken by many. 	<ul style="list-style-type: none"> Minor increase in positive 3Rs attitudes due to new recycling services in multi-family buildings, increase in household composting, effects of promotion/education programs and some increase in the availability of used goods. Participation in composting is expected to be low in multi-family residences. Potential future concerns about the acceptability of MRFs, transfer stations and depots, depending on location. Generally, municipalities and residents are likely to accept future costs of the System although the costs versus the benefits of leaf and yard waste collection may be a concern. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Minor increase in participation because of recycling regulations and promotion/education programs. Greater increases than System 1. Residents are familiar with the System and are likely to accept it because it does not involve any radical changes in behaviour. Greater familiarity than Systems 2-6. Municipalities and residents are likely to accept the costs of the System. Greater acceptance of additional tax per household than Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System does not promote 3Rs opportunities and is unlikely to increase participation rates and levels to the same extent as Systems 3-6. Less acceptance of additional tax per household than System 1.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul uncertain but likely not favourable. Positive effect by maintaining or increasing positive attitudes to 3Rs. General slow growth in positive attitudes to household composting. Composting facility is likely to become less favourable if odour and health issues are not resolved. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on locations. Reuse centres have positive effect; encourages individual and family contribution to improving the environment. 3Rs Promotion and Education likely to motivate some people to participate and source separate effectively and promote change in shopping behaviour for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Residents and municipalities are likely willing to pay part of 3Rs System costs. The 4 percent increase in tax per household (\$57) may be acceptable to residents. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. Uncertain of the willingness of landlords and tenants to pay for bins. In the longer term the higher costs of locating and operating a composting facility may become an issue for some people. Some people are willing to purchase used goods. 		

TABLE B5.3
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 3 - Residential Direct Cost

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> In the short term, some individuals and groups may oppose and not participate fully in the Direct Cost System due to initial opposition, although in the longer term, participation is likely to increase. Levels of participation by individuals and municipalities is uncertain because of a general lack of experience in instituting a Direct Cost System in larger jurisdictions. Potential for higher contamination of Blue Box in the short term. Increase in participation in recycling and in amounts recycled. Residents of municipalities without white goods collection may not be willing/able to drop-off white goods. 	<ul style="list-style-type: none"> Potential for significant opposition to direct cost in the short term. Adaptation and participation will increase, but it may be too controversial in some municipalities. Potential for higher contamination rates in Blue Box and illegal dumping/burning by households. Potential difficulty in expanding composting in multi-family units if odour and insect problems occur. Increase in positive attitudes to 3Rs due to economic incentive for additional source separation to reduce garbage, expansion of household composting, promotion/ education and increased use of reuse centres. Residents may not be willing to pay the 4 percent increase in taxes per household. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential to encourage greater 3Rs participation because Direct Cost encourages people to change their waste management attitudes/behaviour by becoming more aware of how much and what they throw out. Greater than Systems 1, 2 and 6. Potentially higher level of use of backyard composters than all other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for Direct Cost Systems to be more controversial in some municipalities than Systems 1, 2, 4 and 5. Potential for contamination of Blue Box. Greater than Systems 4, 5 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> · Vermicomposting likely to have low rates of participation. · Participation in community composting expected to be low. · Participation in backyard composting and level of use of composter is likely to increase. · Short term increase in shopping at reuse centres. Longer term uncertain. · 3Rs promotion and education have positive effect through increased participation in 3Rs activities 	<ul style="list-style-type: none"> · Residents likely to be willing to pay for subsidized backyard composters, and may be more willing to purchase used goods. · Possible future concerns about the cost of leaf and yard waste collection and composting. · Possible public resentment at having to pay directly for garbage collection. 	
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> · Initially, there will be some negative attitudes on the part of the public to a Direct Cost System. It may be viewed by the public as an additional "tax" on citizens (Proctor and Redfern Ltd., 1993; Globe and Mail, April 8, 1994). This attitude may change by implementing a direct cost system designed specifically for the Region (Reschovsky and Stone, 1994; Skumatz, 1993; Thivierge, 1992). Public education and consultation will be important to enhancing positive attitudes. · After the phase-in period, households are likely to realize the benefit of diverting their waste through lower costs. · In longer term, high participating households may perceive a distinct financial advantage over lower participating households, increasing their enthusiasm for the initiative. · Attitudes toward self-haul, landfill bans and regional recycling legislation uncertain, but likely not favourable. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and Perceptions towards 3Rs Activities	<ul style="list-style-type: none"> Positive attitude toward recycling in multi-family buildings likely to be enhanced by allowing apartment owners/managers to choose system. General growth in positive attitudes to 3Rs supported by household composting. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. Positive effect; encourages positive attitudes and perceptions that the individual/family can contribute to improving the environment. 3Rs promotion likely to motivate people to participate and could promote change in shopping behaviour and demand for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • The 4 percent increase in tax per household (\$70) as a medium impact, may reduce the residents' willingness to pay for the System. • Initial opposition to increased costs of collection of garbage if a decrease in taxes is not identified. • Lower income households and larger households may be unable/unwilling to pay directly for garbage collection. • Willingness of tenants and landlords to pay increased costs is related to recycling and composting is uncertain. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. • Uncertain of acceptance of higher cost for composters for those who have not purchased a composter. • In the longer term the higher costs of locating and operating a composting facility may become an issue for some people. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B5.4
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 4 - Expanded Blue Box

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Greater participation throughout residential sector with largest gains in multi-family, lower-income and ethnic groups. Generally acceptable of leaf and yard waste collection. Drop-off will not be undertaken by many. Expanded participation household composting in low and medium density residential areas. Vermicomposting is likely to have low rates of participation. Participation in community composting is uncertain, but expected to be low. Participation in backyard composting likely to remain at 1994 levels or increases a minor amount. 	<ul style="list-style-type: none"> Greater participation in 3Rs as population grows and more 3Rs services are provided (additional Blue Box materials, composters, promotion/education). Potential difficulty in expanding composting in multi-family units if odour and insect problems occur. Vermicomposting unlikely to increase absolute numbers of participants significantly as only about 14 percent of households are multi-family households. Proper design of collection systems and a system of choice for apartment building owners, managers and dwellers will be important. Uncertain if residents willing to pay the 5 percent increase in household taxes. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Expanded Blue Box System does not require a radical altering of 3Rs attitudes and behaviours. People currently understand, support and participate in all the traditional components (Blue Box, backyard composters, etc.) of a Blue Box System. Greater acceptance than Systems 3, 5 and 6. The low density residential nature and homogenous ethnic make-up of Durham are suitable for this System. More suitable than Systems 3, 5 and 6. The System is likely to encounter less public opposition than System 3 and 6. System is likely to promote greater source separation than Systems 5 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> Residents may not be willing/able to drop off white goods. Short term growth in shopping at reuse centres. Longer term uncertain. 3Rs Promotion and Education has potentially positive effect through increased participation in 3Rs activities and changes to lifestyle. 	<ul style="list-style-type: none"> Municipalities may be willing to participate in and financially support the expanded Blue Box System particularly if current subsidies continue or there is funding as recommended in the "Industry Packaging Model" (formerly known as GPMC model). If provincial or private sector subsidies are not provided, municipalities may be unwilling to maintain and expand the Blue Box. Potential future concerns about the cost of leaf and yard waste collection and composting. 	<p><u>Disadvantages</u></p> <ul style="list-style-type: none"> The System may not encourage as diligent source separation as System 3. Residents willingness to pay is uncertain.
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain but likely not favourable. Positive effect by maintaining or increasing positive attitudes to 3Rs. General growth in positive attitudes to 3Rs supported by household composting. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Traffic, noise and litter may reduce the acceptability of some facilities, depending on location. 3Rs promotion likely to motivate people to participate and could promote change in shopping behaviour and demand for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • In short term uncertain if tenants and landlords are willing to assume additional costs for recycling and composting services. • Uncertain if residents will be willing to pay 5 percent increase in household taxes. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • In the longer term the higher costs of locating and operating a composting facility may become an issue for some people. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B5.5
SYSTEM NET EFFECTS TABLE : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 5 - Residential Wet/Dry

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<p>Wet/Dry Systems require high levels of participation to prevent contamination of wet and dry streams. The highest levels of participation are most likely in single-family residences because of low turnover and greater amount of storage space than multiple-family residences.</p> <p>It is difficult to predict the level of participation in a Wet/Dry System in Durham. It is possible that the Durham region may be comparable to Guelph which undertook a wet/dry pilot (62% diversion of the residential waste stream). Participation could be enhanced through education, personal contact and public consultation.</p>	<p>Due to limited North American experience with Wet/Dry Systems, it is difficult to predict the attitudes and levels of participation on the part of residents. A Wet/Dry System has the potential to divert a significant quantity of the residential waste stream (approximately 60%), but it requires diligent source separation on the part of citizens. If a high enough level of household source separation is not achieved, the "dry" and "wet" streams could be severely contaminated, leading to poor compost quality and extensive sorting of dry recyclables.</p>	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Appears suitable in low density urban areas of Durham <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Greater changes required in resident waste management behaviour than for Systems 1, 2, 3 and 4. Rural residents are likely to have the most difficulty participating, compared to all other Systems. Residents may not separate their food waste diligently and may "contaminate" the recyclables in the garbage stream. Greater potential for improper source separation than Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs (cont'd)	<ul style="list-style-type: none"> Current participation in backyard composting is high and is expected to be high in Durham because of a significant proportion of single-family dwellings. Overall rate of use may decline as others acquiring composters later may not be dedicated to its use or those with composters sort their waste into the "wet" stream. Participation in drop-off expected to be low. Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. If HHW depot is not convenient, it may lead to HHW in the wet or dry streams with potentially serious effects on the compost quality (Taylor, 1993). Municipalities may be hesitant to participate in Wet/Dry Systems because of compost contamination concerns and potentially higher costs associated with sorting the various streams. Short term increase in shopping at reuse centres. Longer term uncertain. Rural residents not served by wet/dry collection are not likely to separate wet waste. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 3Rs Promotion and Education have likely a positive effect on participation. 	<ul style="list-style-type: none"> Attaining high levels of participation will be difficult with the following groups of people in Durham: elderly and disabled; apartment residents and possibly other multiple-family dwelling residents and rural residents. Participation could be enhanced through high levels of education, information provision, personal contact and public consultation. There is likely to be resistance from apartment owners and managers because of potential nuisance effects and cost issues. The willingness of municipalities to pay the costs of the Wet/Dry System is unknown. Residents may not be willing to pay the 6 percent increase in taxes per household. Existing and new compost facilities are likely to become less favourable if odour and health issues are not resolved in the short term. The addition of increased amounts of "wet" waste including meat waste from the Wet/Dry System may aggravate the effects and lead to more negative attitudes on the part of citizens. 	<ul style="list-style-type: none"> Attaining high levels of participation will be difficult with the following groups in Durham: elderly and disabled, apartment residents and possibly other multiple-family dwelling residents and rural residents. Greater difficulty than Systems 1, 2, 3 and 4. The willingness of municipalities and landlords and tenants to pay the costs for this System is unknown. Residents may not be willing to pay the increase in taxes for the System. Greater unwillingness than Systems 1, 2, 3 and 4. Potential for negative attitudes from additional odour effects and health concerns. Greater than Systems 1, 2, 3 and 4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> There is no data for a North American wet/dry system in medium to high density urban areas. There would likely be significant opposition to the implementation of a wet/dry system from building owners/managers because of potential for vermin, insects, odours, hygiene concerns and potential cost. Acceptance of separation into 3 separate bags is unknown (however, apartments represent only about 8 percent of Durham dwelling units). Residents, particularly the elderly may not accept a 3-stream Wet/Dry System if inconveniences such as odour, waste sticking to bin, and moving 90 gallon bins in winter are extensive. Existing compost facilities are likely to become less favourable if odour and health issues are not resolved in the short term. The addition of increased amounts of "wet" waste from the Wet/Dry System may aggravate the problems and lead to more negative attitudes. Could reduce the perception of the need/benefit to use the backyard composter and to diligently source separate. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. Reuse centres reinforce positive attitudes to 3Rs., and are seen as socially and environmentally beneficial. 3Rs Promotion and Education has a potential positive effect; encourages positive attitudes and perceptions that the individual/family can contribute to improving the environment. Potential for multi-family residents to develop a negative attitude toward composting if nuisance effects are prevalent. 	<ul style="list-style-type: none"> Region and residents are likely to continue to accept and support 3Rs promotion and education. Residents willing to pay up to 1/3 of the cost for composters. Level of acceptance and participation in multiple-family residences is uncertain but likely to be low (low proportion of households in Durham). Support, participation and willingness to pay for leaf and yard waste collection is likely to continue in the short term. In the long term concerns about the cost and benefit may become an issue. If HHW depot is not convenient it may lead to decreased participation and potential contamination of wet/dry streams. Reuse centres are supported and viewed as socially and environmentally beneficial. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Building owners/managers may be unwilling to provide wet/dry services to tenants due to costs. The 7 percent increase in tax per household (\$108), as a high impact, may reduce the residents' willingness to pay for the System. Some may oppose on the basis of the tax increase. The willingness of municipalities to pay the costs of the Wet/Dry System are unknown. Municipalities may be hesitant to participate in Wet/Dry System because of potentially higher costs. Additional costs of leaf and yard waste collection and composting are currently acceptable to residents but costs may become an issue in the future. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education and promotion. Uncertain of acceptance of higher costs, for composters or for those who have not purchased a composter. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. The region and residents are likely to continue to support 3Rs promotion and education. 		

TABLE B5.6
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Durham Region

SYSTEM : System 6 - Residential Mixed Waste Processing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Potentially greater participation throughout residential sector with largest gains in multi-family, lower socio-economic and ethnic groups. Some residents are likely to decide not to source separate some or all of their recyclables and food waste knowing that it will be separated for them at the central Mixed Waste Processing and Composting facility. Mixed waste processing conflicts with a philosophy of personal involvement in 3Rs; some municipalities may not want to be involved on that basis. 	<ul style="list-style-type: none"> Potential negative attitudes from potential significant odour effects and potential health concerns with the processing and composting facility; may reduce participation and acceptability; could result in restricted use or closure of the facility. Change in participation in household source separation of materials is uncertain. Over time there could be a reduction in household participation due to provision of separation at the MWPC facility. Residents likely to be unwilling to pay large tax increase per household Municipalities may not be willing to pay for the construction and/or operation of the mixed waste processing and composting facility due to odour and health concerns and may have future concerns about the costs versus the benefits of leaf and yard waste collection. Mixed waste processing conflicts with a philosophy of personal involvement in 3Rs; some individuals/municipalities may not want to be involved on that basis. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> The opportunities for individual/community participation in composting are greater than Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> The opportunities for individual/community participation in composting are less than Systems 3, 4 and 5. Significant odour problems and potential health concerns may make the MWPC facility unacceptable to the public, employees and/or the municipality and may result in restricted use or closure of the facility. Greater potential for effect than Systems 1-5. System may promote less individual participation in 3Rs than Systems 1-5. Residents likely to be unwilling to pay the tax increase per household. Greater unwillingness than Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs (cont'd)	<ul style="list-style-type: none"> General acceptance of leaf and yard waste collection. Participation in drop-off expected to be low. Vermicomposting has not met with wide acceptance and will probably have low rates of participation. Participation in community composting is uncertain, but expected to be low, due to availability of more convenient option. Participation in backyard composting may increase but the level of use of composter likely to decrease as more convenient option available. Short term increase in shopping at reuse centres. Longer term uncertain. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 		<ul style="list-style-type: none"> Municipalities may be unwilling/unable to pay the high capital costs for the mixed waste processing System. Greater unwillingness to pay than Systems 1-5. Some residents may not source separate their recyclables and food waste (for household composting) knowing that the garbage will be sorted for them at the MWPC facility. This could have a negative effect on the use of other components of the System and decrease support for 3Rs in the long run. Potential for contamination of recyclables; may reduce the usability of the recyclables. Greater potential for contamination than Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> • Attitudes toward self-haul and landfill bans uncertain. • Provision of recycling service to all apartments cooperative housing buildings may provide long term support for 3Rs and should increase positive attitudes to waste diversion. In particular if apartment owners/managers are able to choose the system for their building. • Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. • Existing facilities are likely to become less favourable if odour and health issues are not resolved. • Mixed waste processing and composting facility may lead to negative attitudes and perceptions. • Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. • Consumer education may promote change in shopping for changes in product design (durable, repairable) and packaging (reduction and recycle). • 3Rs promotion may increase awareness of the need for and benefits of 3Rs. May motivate people to participate. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • Municipalities may not be willing to contribute to the high capital and operating costs of the mixed waste processing and composting facility. • The 9.0 percent increase in tax per household (\$135), as a high impact, will reduce the residents' willingness to pay for the System. Residents may be unwilling to pay. • In short term uncertain if tenants and landlords are willing to assume additional costs for recycling and composting services. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. • Additional costs of leaf and yard waste collection and composting are currently acceptable to residents but costs may become an issue in the future. 		

TABLE B6.1
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 1 - Residential Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Participation is limited by a lack of opportunities for multi-family residents (less participation by high rise, high and medium density multi-family buildings). This is key for Metro Toronto. Participation in recycling and composting by single families likely to continue at the 1994 rate. Potential minor increase in proportion of households participating in leaf and yard waste collection. Leaf and yard waste drop-off will not be undertaken by many. Participation in backyard composting likely to remain constant. Participation in composting in multi-family residences is unknown, but expect low participation (Glenn, 1993). Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. Short term increase in shopping at reuse centres. Longer term demand for used goods uncertain. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 	<ul style="list-style-type: none"> Greater participation as population grows, with slight increase in positive 3Rs attitudes due to new recycling services in multi-family buildings. Increases in household composting, effects of promotion/education programs and some increase in the availability of used goods. Generally, municipalities and residents are likely to accept future costs of the System, although the costs and the nuisance effects of leaf and yard waste collection and composting may be concerns. Participation in composting is expected to be very low in multi-family residences. Potential future concerns about the acceptability of MRFs, transfer stations and depots, depending on location. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Residents are familiar with the System and are likely to continue to accept this System more than Systems 3-6. Municipalities and residents are likely to be more willing to accept the costs of this System than System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> This System offers fewer 3Rs participation opportunities than Systems 2-6. System does not promote reduction and reuse opportunities to the same extent as Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Residential recycling has positive effect by maintaining or increasing positive attitudes to 3Rs. General growth in positive attitudes to household composting. Minor positive attitudinal effect to support 3Rs by the provision of other convenient recycling options. Composting facilities and leaf and yard waste bunkers are likely to become less favourable if odour and health issues are not resolved. Traffic, noise and litter issues may reduce the acceptability of the MRFs, transfer stations and depots, depending on location. 3Rs promotion likely to motivate people to participate and could promote changes in shopping behaviour for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Residents and municipalities are willing to pay the 2 percent increase in local taxes. Residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost for composters or for those who have not purchased a composter. Uncertain of the willingness of landlords and tenants to pay for recycling bins. In the longer term, the higher costs of locating and operating a composting facility may become an issue for some people. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B6.2
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 2 - Residential Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs System	<ul style="list-style-type: none"> Greater participation throughout residential sector with largest gains in multi-family groups. Participation in backyard composting likely to remain constant. Vermicomposting likely to have low rates of participation. Short term increase in shopping at reuse centres. Longer term demand for used goods uncertain. Participation is limited by a lack of opportunities for multi-family residents. Possible minor increase in proportion of households participating in leaf and yard waste collection. Leaf and yard waste drop off will not be undertaken by many. Participation in composting in multi-family residences is unknown, but expect low participation (Glenn, 1993). Participation in community composting expected to be low. Residents of municipalities without white goods collection may not be willing to drop off white goods. 	<ul style="list-style-type: none"> Greater participation as population grows with slight increase in positive 3Rs attitudes due to increase in household composting, increased recycling opportunities for single and multi-family residents, effects of promotion/ education program, and increase in the availability of used goods. The costs/benefits of leaf and yard waste collection may be a concern. Participation in composting is expected to be low in multi-family residences. Potential future concerns about the acceptability of MRFs, transfer stations and depots and leaf and yard waste bunkers, depending on location. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Will increase participation above System 1 levels. Residents are familiar with the System and are likely to accept it because it does not involve any radical changes; greater familiarity than Systems 3-6. Municipalities and residents are likely willing to accept the costs of the System. Greater willingness than System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System does not promote 3Rs opportunities to the same extent as Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Positive effect by maintaining or increasing positive attitudes to 3Rs. General slow growth in positive attitudes to household composting. Composting facilities are likely to become less favourable if odour and health issues are not resolved. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on locations. Reuse centres have positive effect; encourages individual and family can contribute to improving the environment. 3Rs Promotion and Education likely to motivate some people to participate and source separate effectively and promote change in shopping behaviour for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Residents and municipalities are probably willing to pay the 2 percent increase in local tax. Residents willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost for composters or for those who have not purchased a composter. Uncertain of the willingness of landlords and tenants to pay for recycling bins. In the longer term the higher costs of operating composting facilities may become an issue for some people. Some people are willing to purchase used goods. 		

TABLE B6.3
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 3 - Residential Direct Cost

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> In the short term, some individuals and groups may not participate fully in the Direct Cost System, although in the longer term, participation is likely to increase. Any type of Direct Cost System implemented in a region where there is a significant proportion of high-rise buildings is likely to meet with mixed success (Skumatz and Zack, 1993; Krivit and Schmidt, 1992). Levels of participation by individuals and municipalities uncertain because of a general lack of experience in instituting a Direct Cost System in larger jurisdictions. Potential for higher contamination of Blue Box in the short term. Increase in participation in recycling and in amounts recycled. Residents of municipalities without white goods collection may not be willing/able to drop off goods. 	<ul style="list-style-type: none"> Potential for significant opposition to direct cost in the short term. Adaptation and participation will increase, but it may be too controversial in some municipalities. Potential for higher contamination rates in Blue Box and illegal dumping/incineration by households. Potential difficulty in expanding composting in multi-family units if odour and insect problems occur. Increase in positive attitudes to 3Rs due to additional source separation to reduce garbage, expansion of household composting, promotion/education and increased use of reuse centres. Residents likely to be willing to pay for the System. Greater use of backyard composting as residents reduce amount of garbage placed out for disposal. Potential future concerns about the cost of leaf and yard waste collection. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential to encourage higher 3Rs participation than Systems 1 and 2 because Direct Cost encourages people to change their waste management attitudes/behaviour by becoming more aware of how much and what they throw out. Cost likely more acceptable to residents and municipalities than System 6. Greater use of backyard composting. Greater than all other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for Direct Cost Systems to be controversial in some or all local municipalities. Greater than Systems 1, 2, 4 and 5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> • The ethnic and language diversity of Metro would make the implementation of a Direct Cost System somewhat more complex and may require a more extended period of time to achieve equivalent levels of participation as more homogenous region. • Vermicomposting likely to have low rates of participation. • Participation in community composting expected to be low. • Participation in backyard composting and level of use of composter is likely to increase. • Short term increase in shopping at reuse centres. Longer term uncertain. • 3Rs Promotion and Education have positive effect through increased participation in 3Rs activities. 		
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> • Initially, there will be some negative attitudes on the part of the public to a Direct Cost System. It may be viewed by the public as an additional "tax" on citizens (Proctor and Redfern Ltd., 1993; Globe and Mail, April 8, 1994). This attitude may change by implementing a Direct Cost System designed specifically for the Region (Reschovsky and Stone, 1994; Skumatz, 1993; Thivierge, 1992). Although this may be difficult in Metro because of a high proportion of high density housing. Public education and consultation will be important to enhancing positive attitudes. • In longer term, high participating households may perceive a distinct financial advantage over lower participating households, increasing their enthusiasm for the initiative. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities (cont'd)	<ul style="list-style-type: none"> Positive attitude toward recycling in multi-family buildings likely to be enhanced by allowing apartment owners/managers to choose system. General growth in positive attitudes to 3Rs supported by household composting. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. Positive effect; encourages positive attitudes and perceptions that the individual/family can contribute to improving the environment. 3Rs promotion likely to motivate people to participate and could promote change in shopping behaviour and demand for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Local government and residents appear willing to pay for the System. Residents likely willing to pay 3 percent increase in household taxes (\$34). Initial opposition to increased costs of collection of garbage without notification of tax decrease. Lower income households and larger households may be unable/unwilling to pay directly for garbage collection. After the phase-in period, households are likely to realize the benefit of diverting their waste through lower costs. Willingness of tenants and landlords to pay increased costs of recycling bins is uncertain. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost for composters for those who have not purchased a composter. Uncertain of the willingness of landlords and tenants to pay for composting facilities. Municipalities may be less willing to pay the cost of white goods pick up and HHW. In the longer term the higher costs of locating/operating composting facilities may become an issue for some people. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B6.4
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 4 - Residential Expanded Blue Box

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Greater participation throughout residential sector with largest gains in multi-family, lower-income and ethnic groups. Increase in participation in recycling and amount and types of material recycled. General acceptance of leaf and yard waste collection. Drop-off will not be undertaken by many. Expanded participation in household composting in low and medium density residential areas. Vermicomposting is likely to have low rates of participation. Participation in community composting is uncertain, but expected to be low. Participation in backyard composting likely to remain at 1994 levels or increase a minor amount. Residents may not be willing/able to drop off white goods. Short term growth in shopping at reuse centres. Longer term uncertain. 3Rs Promotion and Education has potentially positive effect through increased participation in 3Rs activities and changes to lifestyle. 	<ul style="list-style-type: none"> Greater participation in 3Rs as population grows and more 3Rs services are provided. Potential difficulty in expanding composting in multi-family units if odour and insect problems occur. Proper design of collection systems and a system of choice for apartment building owners, managers and dwellers will be important. Municipalities may be willing to participate in and financially support the Expanded Blue Box System. Potential future concerns about the facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Participation is expected to be greater than Systems 1 and 2. Residents are familiar with the System and are likely to accept it more than Systems 3, 5 and 6. Residents and municipalities will likely be willing to pay for this System. Greater willingness to pay than System 6. <p><u>Disadvantages</u></p>

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Positive effect by maintaining or increasing positive attitudes to 3Rs. General growth in positive attitudes to 3Rs supported by household composting. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Traffic, noise and litter may reduce the acceptability of some facilities, depending on location. Minor effect. 3Rs promotion likely to motivate people to participate and could promote change in shopping behaviour and demand for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • In short term uncertain if tenants and landlords are willing to assume additional costs for recycling services. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • Uncertain of the willingness of landlords and tenants to pay for high costs of composting. Probably unacceptable. • In the longer term the higher costs of operating composting facilities may become an issue for some people. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. • Local government and residents appear willing to pay the 3 percent increase in household tax. 		

TABLE B6.5
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 5 - Residential Wet/Dry

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<p>It is difficult to predict the level of participation in a wet/dry system in Metro. High participation rates would probably be difficult in apartments/high rises. Participation could be enhanced through education, personal contact and public consultation. Due to the demographic and housing context, participation rates in Metro would probably be lower than other regions in the GTA.</p> <p>Due to the ethnic and language diversity of Metro, greater efforts in promotion, consultation and public education will be required to attain higher levels of participation because of the changes for wet/dry. Wet/Dry Systems require high levels of commitment by participants to prevent contamination of wet and dry streams. The highest levels of participation are most likely in single-family residences because of low turnover and a greater amount of storage space than multiple-family residences.</p>	<p>Due to limited North American experience with Wet/Dry Systems, it is difficult to predict the attitudes and level of participation on the part of residents. A Wet/Dry System has the potential to divert a significant quantity of the residential waste stream, but it requires diligent source separation on the part of citizens. If a high enough level of household source separation is not achieved, the "dry" and "wet" streams could be severely contaminated, leading to poor compost quality and extensive sorting of dry recyclables.</p> <p>Attaining high levels of participation will be difficult with the following groups of people in Metro: elderly and disabled, apartment residents and possibly other multiple-family dwellings. Participation could be enhanced through high levels of education, information provision, personal contact and public consultation.</p>	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Participation is expected to be greater than Systems 1 and 2. Municipalities and residents will likely be more willing to pay for this System than System 6. Less negative attitudes toward System than System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> A Wet/Dry System in Metro is likely to be somewhat unsuccessful in high rise areas and its acceptance limited in areas that will receive carts, but have limited backyard space. Due to inconveniences associated with carts, there may be a lack of support for this System. Greater negative attitudes than Systems 1, 2 and 4. Likely to be more negative attitudes to this System than Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> • Vermicomposting likely to have low rates of participation. • Participation in community composting expected to be low. • If HHW depot is not convenient, it may lead to HHW in the wet or dry streams with potentially serious effects on the compost quality (Taylor, 1993). • Municipalities may be hesitant to participate in Wet/Dry Systems because of compost contamination concerns and potentially higher costs associated with sorting the various streams. • Short term increase in shopping at reuse centres. Longer term uncertain. • Current participation in backyard composting is high. • Overall rate of use is likely to decline as others acquiring composters later may not be dedicated to its use or those with composters sort their waste into the "wet" stream. • 3Rs Promotion and Education has likely a positive effect on participation. 	<ul style="list-style-type: none"> • Residents will likely be willing to pay System costs. • There is likely to be resistance from apartment owners and managers because of potential nuisance effects and cost issues. • Existing and new compost facilities are likely to become less favourable if odour and health issues are not resolved in the short term. The addition of increased amounts of "wet" waste, including meat waste from the Wet/Dry System, may aggravate the effects and lead to more negative attitudes on the part of citizens. • If HHW depot is not convenient, it may lead to decreased participation and potential contamination of wet/dry streams. 	<ul style="list-style-type: none"> • Residents may not separate their food waste as diligently, particularly in winter and may "contaminate" the garbage or recycle streams. • Potential for a variety of inconveniences which may reduce its acceptability. • Acceptability of the System may be affected by odour, health and vermin effects from food waste composting facilities. Greater than System 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Existing compost facility is likely to become less favourable if odour and health issues are not resolved in the short term. A wet/dry facility may not be acceptable unless these problems can be addressed. There is no data for a North American Wet/Dry System in medium to high density urban areas. There would likely be significant opposition to the implementation of a Wet/Dry System from building owners/managers because of potential for vermin, insects, odours, hygiene concerns and potential cost. Some concerns may be addressed by developing various alternative systems for large apartments. Residents, particularly elderly may not be accepting of a 3-stream Wet/Dry System, if inconveniences such as odour, waste sticking to bin, and moving 90 gallon bins in winter are extensive. Could reduce the perception of the need/benefit to use the backyard composter and to diligently source separate. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. Reuse centres reinforce positive attitudes to 3Rs and are seen as socially and environmentally beneficial. Potential positive effect; encourages positive attitudes and perceptions that the individual/family can contribute to improving the environment. Promotion and Education will increase awareness of the need for and benefits of 3Rs and Wet/Dry. Will motivate people to participate. Will educate people on how to participate in a constructive fashion. Potential for multi-family resident to develop a negative attitude toward composting if nuisance effects prevalent. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Residents will likely be willing to pay the 3 percent tax increase per household (\$45). Building owners/managers may be unwilling to provide wet/dry services to tenants due to costs. Municipalities may be hesitant to participate in Wet/Dry System because of potentially very high costs. Additional costs of leaf and yard waste collection and composting are currently acceptable to residents but costs may become an issue in the future. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education and promotion. Uncertain of acceptance of higher costs, for composters or for those who have not purchased a composter. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. The region and residents are likely to continue to support 3Rs promotion and education. 		

TABLE B6.6
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Metro Toronto

SYSTEM : System 6 - Residential Mixed Waste Processing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Potentially greater participation throughout residential sector with largest gains in multi-family, lower socio-economic and ethnic groups. Some residents are likely to decide not to source separate some or all of their recyclables and food waste knowing that it will be separated for them at the 2 centralized Mixed Waste Processing and Composting facilities. Mixed waste processing conflicts with a philosophy of personal involvement in 3Rs; some municipalities may not want to be involved on that basis. General acceptance of leaf and yard waste collection. Participation in drop-off expected to be low. Vermicomposting has not met with wide acceptance and will probably have low rates of participation. Participation in community composting is uncertain, but expected to be low, due to availability of more convenient option. 	<ul style="list-style-type: none"> Significant odour effects and potential health concerns with the processing and composting facility. Change in participation in household source separation of materials is uncertain. Over time there could be a reduction in household participation due to provision of separation at the MWP facility. Municipalities and residents are likely unwilling to pay for the construction and/or operation of the mixed waste processing and composting facility due to odour and health concerns and may have future concerns about the costs/benefits of leaf and yard waste collection. Mixed waste processing conflicts with a philosophy of personal involvement in 3Rs; some individuals and municipalities may not want to be involved on that basis. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> None compared to other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Likely to be negative attitudes toward facilities, in particular the two mixed waste processing and composting facilities, because of odour, health and nuisance concerns. Negative attitudes are likely to be greater than Systems 1-5. Some residents may not source separate their recyclables and food waste (for household composting) knowing that the garbage will be sorted for them at the MWP facility. This could have a negative effect on the use of other components of the System and decrease support for 3Rs in the long run. System requires less individual participation in 3Rs than Systems 1-5. Municipalities and residents are likely to be unwilling to pay the high capital costs for the mixed waste processing System.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs (cont'd)	<ul style="list-style-type: none"> Participation in backyard composting may increase but level of use of composter likely to decrease as more convenient option available. Short term increase in shopping at reuse centres. Longer term uncertain. Residents of municipalities without white goods collection may not be willing/able to drop off goods. 		
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Provision of recycling service to all apartments over 6 units should provide long term support for 3Rs and should increase positive attitudes to waste diversion, in particular if apartment owners/managers are able to choose the system for their building. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Existing compost facilities are likely to become less favourable if odour and health issues are not resolved. Mixed waste processing and composting facilities may lead to negative attitudes and perceptions. 3Rs promotion may increase awareness of the need for and benefits of 3Rs. May motivate people to participate. Consumer education may promote change in shopping for changes in product design (durable, repairable) and packaging (reduction and recycle). Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • Municipalities will likely not be willing to contribute to the extremely high capital and operating costs of the two mixed waste processing and composting facilities. • Residents likely to be unwilling to pay the 7 percent tax increase. • In short term uncertain if tenants and landlords are willing to assume additional costs for recycling and composting services. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. • Additional costs of leaf and yard waste collection and composting are currently acceptable to residents but costs may become an issue in the future. 		

TABLE B7.1
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 1 - Residential Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Participation may be limited by a lack of opportunities for multi-family residents (less participation by high rise, high and medium density multi-family buildings). Participation in recycling and composting by single families likely to continue at the 1994 rate. Potential minor increase in proportion of households participating in leaf and yard waste collection. Leaf and yard waste drop-off will not be undertaken by many. Small increase in household composting in low density residential areas. Participation in composting in multi-family residences is unknown, but expect low participation (Glenn, 1993). Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. Short term increase in shopping at reuse centres. Longer term demand for used goods uncertain. 	<ul style="list-style-type: none"> Minor increase in participation with maintenance or slight increase in positive attitudes to 3Rs with more people using backyard composters and separating out recyclables due to distribution of additional backyard composters and promotion/education program. Potential future concerns about the cost and nuisance effects of leaf and yard waste collection and composting. Potential future concerns about the acceptability of MRFs, transfer stations and depots, depending on location. Residents willing to pay for subsidized backyard composters, and may be more willing to purchase used goods. Residents and municipalities will likely be willing to accept costs. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Residents are familiar with the system and are likely to continue to accept it. Municipalities and residents are likely to accept the costs of the System. Residents likely more willing to pay than for all other Systems. Minor potential increase in participation rates with increased levels of promotion/education. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> For those in multi-family residences, this System offers fewer 3Rs participation opportunities than Systems 2-6. System does not promote reduction and reuse opportunities to the same extent as Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain. Residential recycling has positive effect by maintaining/increasing positive 3Rs attitudes. General slow growth in positive attitudes to household composting. Composting facilities are likely to become less favourable if odour and health issues are not resolved in the near term. Traffic, noise and litter issues may reduce the acceptability of the MRF, transfer stations and depots, depending on location. 3Rs promotion likely to motivate people to participate, e.g., promote changes in shopping behaviour for changes in product design (durable, repairable) and packaging (reduction and recycle). 		
Willingness to pay	<ul style="list-style-type: none"> The 2% increase in tax per household (\$29), is a low impact; residents' will likely be willingness to pay for the System. Residents likely to continue to be willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education and promotion. Uncertain of acceptance of higher cost for composters or for those who have not purchased a composter. Uncertain of the willingness of landlords and tenants to pay for recycling bins. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. In the longer term, the higher costs of locating and operating a composting facility may become an issue for some people. 		

TABLE B7.2
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 2 - Residential Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs System	<ul style="list-style-type: none"> Greater participation throughout residential sector with largest gains in multi-family groups. Participation in backyard composting likely to remain constant. Vermicomposting likely to have low rates of participation. Short term increase in shopping at reuse centres. Longer term demand for used goods uncertain. Participation in community composting expected to be low. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. General acceptance of leaf and yard waste collection; participation levels likely to remain constant. Drop off will not be undertaken by many. Participation in composting in multi-family residences is unknown, but expected to be low (Glenn, 1993). 	<ul style="list-style-type: none"> Minor increase in participation, with slight increase in positive 3Rs attitudes due to new recycling services in multi-family buildings, increases in household composting and some increase in the availability of used goods. Participation in composting is expected to be very low in multi-family residences. Potential concerns about the acceptability of MRFs, transfer stations and depots, depending on locations. The 4% increase in tax per household (\$44 per hhld), as a medium impact; may reduce the residents' willingness to pay, however, municipalities and residents are likely to accept costs of the System. Costs and the nuisance effects of leaf and yard waste collection and composting may be concerns. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Minor increase in participation. Greater than System 1. Residents are familiar with the System and are likely to accept it because it does not involve any radical changes. System is more familiar than Systems 3, 5 and 6. Municipalities and residents are likely to accept the costs of the System. More likely than Systems 5 and 6. System is suitable to low density character of York. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System does not promote 3Rs opportunities to the same extent as Systems 3-6. Increase of 4 percent in household tax may reduce residents' willingness to pay. Less willing to pay than System 1.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain. Positive effect by maintaining or increasing positive attitudes to 3Rs. General growth in positive attitudes to household composting. Potential for residents of multi-family households to develop negative attitudes to composting if odour and insect problems occur. Composting facility is likely to become less favourable if odour and health issues are not resolved in the near term. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on locations. Reuse centres have positive effect; encourages individual and family can contribute to improving the environment. 3Rs Promotion and Education will promote change in shopping behaviour for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • The 4% increase in tax per household (\$44 per hhld), as a medium impact, may reduce the residents' willingness to pay for the System. Residents likely willing to pay for the System. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • Uncertain of the willingness of landlords and tenants to pay for recycling bins. • Municipalities may be less willing to pay the cost of white goods pick up. • In the longer term the higher costs of operating a composting facility may become an issue for some people. • Some people are willing to purchase used goods. 		

TABLE B7.3
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 3 - Residential Direct Cost

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> In the short term, some individuals and groups may oppose and not participate fully in the direct cost System although, in the longer term, participation is likely to increase. Potential for increase in illegal dumping and burning by households, particularly in rural areas of York Region. Levels of participation by individuals and municipalities is uncertain because of a general lack of experience in instituting a Direct Cost System in larger jurisdictions. Potential for contamination of Blue Box in the short term. Increase in participation in recycling and in amounts recycled. Participation in community composting expected to be low. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 	<ul style="list-style-type: none"> Potential for significant opposition to direct cost in short term. Adaptation and participation may increase, but it may be too controversial in some municipalities. Potential for contamination of Blue Box and illegal dumping/burning by households. Potential difficulty in expanding composting in multi-family units if odour and insect problems occur. Increase in positive attitudes to 3Rs due to additional source separation to reduce garbage, expansion of household composting and promotion/ education. Residents likely to be willing to pay for subsidized backyard composters and may be more willing to purchase used goods. Possible future concerns about the cost of leaf and yard waste composting. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential to encourage greater 3Rs participation because Direct Cost encourages people to change their waste management attitudes/behaviour by becoming more aware of how much and what they throw out. Greater than all other Systems. Level of use of backyard composter higher than all other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for direct cost Systems to be controversial in some municipalities. Greater potential than for all other Systems. Residents may be unwilling to pay increase in taxes. Possible public resentment greater than Systems 1 and 2. Potential for contamination of Blue Box. Greater than Systems 1, 2, 4, 5 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> Participation is also likely to be high because direct cost is suited to the housing context of York Region (high proportion of single family dwellings). The high degree of home ownership suggests a lower turnover rate, which may lead to a higher participation rate. Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. Participation in backyard composting and level of use of composter is likely to increase. Short term increase in shopping at reuse centres. Longer term uncertain. 3Rs promotion and education have positive effect through increased participation in 3Rs activities. 	<ul style="list-style-type: none"> Increase in positive attitudes to 3Rs due to additional source separation to reduce garbage, expansion of household composting, promotion/education and increased use of reuse centres. Residents may not be willing to pay the additional tax increase for the Direct Cost System. 	
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Initially, there will be some negative attitudes on the part of the public to a Direct Cost System. It may be viewed by the public as an additional "tax" on citizens (Proctor and Redfern Ltd., 1993; Globe and Mail, April 8, 1994). This attitude may change by implementing a Direct Cost System designed specifically for the Region (Reschovsky and Stone, 1994; Skumatz, 1993; Thivierge, 1992). Public education and consultation will be important to enhancing positive attitudes. In longer term, high participating households may perceive a distinct financial advantage over lower participating households, increasing their enthusiasm for the initiative. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain. Positive attitude toward recycling in multi-family buildings likely to be enhanced by allowing apartment owners/managers to choose system. General growth in positive attitudes to 3Rs supported by household composting. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location (Minor effect). Encourages positive attitudes and perceptions that the individual/family can contribute to improving the environment. 3Rs promotion likely to motivate people to participate and could promote change in shopping behaviour and demand for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Lower income households may be unable/unwilling to pay directly for garbage collection. Willingness of tenants and landlords to pay increased costs related to recycling and composting is uncertain. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost for composters for those who have not purchased a composter. The 5% increase in tax per household (\$56 per hhld), as a medium impact, may reduce the residents' willingness to pay for the System. Some may oppose on the basis of the tax increase. Municipalities may be less willing to pay the cost of white goods pick up and HHW. In the longer term the higher costs of locating and operating a composting facility may become an issue for some people. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. Initial opposition to increased costs of collection of garbage without notification of tax decrease. 		

TABLE B7.4
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 4 - Residential Expanded Blue Box

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Greater participation throughout residential sector with largest gains in multi-family, lower income and ethnic groups. Residents and municipalities are familiar with the system components; no radical change in behaviour is required. Increase in types of material recycled. General acceptance of leaf and yard waste collection. Drop-off will not be undertaken by many. Expanded participation in household composting in low and medium density residential areas. Vermicomposting is likely to have low rates of participation. Participation in community composting is uncertain, but expected to be low. Participation in backyard composting likely to remain at 1994 levels or a minor increase. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 	<ul style="list-style-type: none"> Greater participation in 3Rs with more 3Rs services provided. Potential difficulty in expanding composting in multi-family units if odour and insect problems occur. Proper design of collection systems and a system of choice for apartment building owners, managers and dwellers will be important. The 5% increase in tax per household (\$57), as a medium impact, may reduce the residents' willingness to pay for the System. Potential future concerns about the cost of leaf and yard waste collection and composting. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Expanded Blue Box System does not require a radical altering of 3Rs attitudes and behaviours. People currently understand, support and participate in all the traditional components (Blue Box, backyard composters, etc.) of a Blue Box System. Municipalities are familiar with the strengths and weaknesses of traditional Blue Box Systems. The System is likely to encounter less public opposition than System 3. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> A minor disadvantage is that participation in recycling and composting in high density housing is uncertain.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> Residents may not be willing/able to drop off white goods. Short term growth in shopping at reuse centres. Longer term uncertain. Potentially positive effect through increased participation in 3Rs activities and changes to lifestyle. 		
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain. Positive effect by maintaining or increasing positive attitudes to 3Rs. General growth in positive attitudes to 3Rs supported by household composting. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Traffic, noise and litter may reduce the acceptability of some facilities, depending on location (minor effect). 3Rs promotion likely to motivate people to participate and could promote change in shopping behaviour and demand for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • The 5% increase in tax per household (\$57 per hhld), as a medium impact, may reduce the residents' willingness to pay for the System. • In short term uncertain if tenants and landlords are willing to assume additional costs for recycling and composting services. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • In the longer term the higher costs of operating composting facilities may become an issue for some people. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B7.5
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 5 - Residential Wet/Dry

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<p>Wet/Dry Systems require high levels of commitment by participants to prevent contamination of wet and dry streams. The highest levels of participation and contamination are most likely in single-family residences because of low turnover and greater amount of storage space than multiple-family residences. Participation rates in York could be quite high because of the relatively low proportion of apartments and rental units and because York Region is not ethnically and linguistically as diverse as Metropolitan Toronto. (Similar to Peel) Participation could be enhanced through education, personal contact and public consultation.</p> <p>There is no data of a North American wet/dry system in medium to high density urban areas. There would likely be significant opposition to the implementation of a wet/dry system from building owners/managers because of potential for vermin, insects, odours, hygiene concerns and potential cost. Some concerns may be addressed by developing various alternative systems for large apartments.</p>	<p>Due to limited North American experience with Wet/Dry Systems, it is difficult to predict the attitudes and levels of participation on the part of residents. A Wet/Dry System has the potential to divert a significant quantity of the residential waste stream (approximately 60%), but it requires diligent source separation on the part of citizens. If a high enough level of household source separation is not achieved, the "dry" and "wet" streams could be severely contaminated, leading to poor compost quality and extensive sorting of dry recyclables.</p> <p>Due to the high proportion of single family dwellings, a relatively small proportion of the population that is elderly and limited rental units, a wet/dry System in York Region may be feasible. Participation could be enhanced through high levels of education, information provision, personal contact and public consultation.</p>	<p><u>Advantages</u></p> <ul style="list-style-type: none"> A Wet/Dry System would appear to be suitable in urban areas of York Region because of a high proportion of single family residences, a relatively lower percentage of elderly people and a low proportion of rental units and high rise apartments. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> To be effective, this System requires a change in resident waste management behaviour. Greater change required than for Systems 1 - 4. Rural residents are likely to have difficulty participating.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs (con't)	<ul style="list-style-type: none"> Potentially unacceptable for medium to high density development. The need to source separate in a cart system may cause significant odours in individual apartments and buildings. Residents, particularly elderly may not accept a 3-stream Wet/Dry System, if inconveniences such as odour, waste sticking to cart, and moving 90 gallon bins in winter are extensive. General acceptance of leaf and yard waste collection. Participation in drop-off expected to be low. Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. Greater participation by individuals in pick-up services (e.g., white goods and bulky items collection, HHW mobile depots). If HHW depot is not convenient, it may lead to HHW in the wet or dry streams with potentially serious effects on the compost quality (Taylor, 1993). Municipalities may be hesitant to participate in Wet/Dry systems because of compost contamination concerns. Short term increase in shopping at reuse centres. Longer term uncertain. Rural resident not served by Wet/Dry collection are not likely to separate waste. 3Rs Promotion and Education has likely a positive effect on participation. 	<ul style="list-style-type: none"> There is likely to be resistance from apartment owners and managers because of potential nuisance effects and cost issues. The 8% increase in tax per household (\$83), as a high impact, residents' will likely be unwilling to pay for the System. Some may oppose on the basis of the tax increase. The willingness of municipalities to pay the costs of the Wet/Dry System are unknown. Existing and new compost facilities are likely to become less favourable if odour and health issues are not resolved in the short term. The addition of increased amounts of "wet" waste including meat waste from the wet/dry System may aggravate the effects and lead to more negative attitudes on the part of citizens. Region and residents are likely to continue to accept and support 3Rs promotion and education. Support, participation and willingness to pay for leaf and yard waste collection is likely to continue in the short term. In the long term concern about the cost and benefit may become an issue. 	<ul style="list-style-type: none"> Residents may not separate their food waste diligently, particularly in winter and may "contaminate" the garbage or recyclables stream. Greater potential for improper source separation than Systems 1-4. Potential for negative attitudes from additional odour and health concerns from composting facilities. The willingness of municipalities, landlords and tenants to pay the costs for this System is unknown. Residents will likely be unwilling to pay for the System. Some may oppose on the basis of the tax increase. Greater unwillingness than Systems 1-4. Attaining high levels of participation will be difficult with the following groups in York: elderly and disabled apartment residents and rural residents. Greater difficulty than Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs (con't)	<p>Current participation in backyard composting is high and is expected to be high in York because of a significant proportion of single-family dwellings and the rural sectors of York (rural households likely to compost more easily).</p> <p>Overall rate of use is likely to decline as others acquiring composters later may not be dedicated to its use or those with composters sort their waste into the "wet" stream.</p>	Residents willing to pay up to 1/3 of the cost for composters.	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> There is no data for a North American wet/dry system in medium to high density urban areas or in rural areas. There would likely be some opposition to the implementation of a wet/dry system from building owners, managers and residents because of the potential for vermin, insects, odours, hygiene concerns and potential cost. Acceptance of separation into 3 separate bags is unknown. Residents, particularly the elderly, may not accept a 3-stream Wet/Dry System if inconveniences such as odour, waste sticking to bin, and moving 90 gallon bins in winter are extensive. Existing compost facilities are likely to become less favourable if odour and health issues are not resolved in the short term. A wet/dry facility may not be acceptable unless these problems can be addressed. Could reduce the perception of the need/benefit to use the backyard composter and to diligently source separate. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location (minor effect). Reuse centres reinforce positive attitudes to 3Rs, and are viewed as socially and environmentally beneficial. Potential for multi-family residents to develop a negative attitude toward composting if nuisance effects prevalent. 	<ul style="list-style-type: none"> Level of acceptance in multiple-family residences is uncertain but likely to be low. Reuse centres are supported and viewed as socially and environmentally beneficial. If HHW depot is not convenient it may lead to decreased participation and possible contamination of wet/dry streams. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • The 7% increase in tax per household (\$83), as a high impact, residents' will likely be unwilling to pay for the System. Some may oppose on the basis of the tax increase. • Potential building owners/managers may be unwilling to provide wet/dry services to tenants due to costs. • Municipalities may be hesitant to participate in Wet/Dry System because of potentially higher costs. • Additional costs of leaf and yard waste collection and composting are currently acceptable to residents but costs may become an issue in the future. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education and promotion. Uncertain of acceptance of higher costs, for composters or for those who have not purchased a composter. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B7.6
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : York Region

SYSTEM : System 6 - Residential Mixed Waste Processing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> • Potentially greater participation throughout residential sector with largest gains in multi-family, lower socio-economic and ethnic groups. • Some residents are likely to decide not to source separate some or all of their recyclables and food waste knowing that it will be separated for them at the central Mixed Waste Processing and Composting facility. • Mixed waste processing conflicts with a philosophy of personal involvement in 3Rs; some municipalities may not want to be involved on that basis. • General acceptance of leaf and yard waste collection. Participation in drop-off expected to be low. • Vermicomposting has not met with wide acceptance and will probably have low rates of participation. • Participation in community composting is uncertain, but expected to be low, due to availability of more convenient option. • Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 	<ul style="list-style-type: none"> • Potential negative attitudes from potential significant odour effects and potential health concerns with the processing and composting facility; may reduce participation and acceptability; could result in restricted use or closure of the facility. • Change in participation in household source separation of materials is uncertain. Over time there could be a reduction in household participation due to provision of separation at the MWP facility. • Municipalities and residents may not be willing to pay for the construction and/or operation of the mixed waste processing and composting facility due to odour and health concerns and may have concerns about the future costs/benefits of leaf and yard waste collection. • Mixed waste processing conflicts with a philosophy of personal involvement in 3Rs; some municipalities may not want to be involved on that basis. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> • The opportunities for individual and community participation in composting are Greater than Systems 1-2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> • The opportunities for individual and community participation in composting are less than Systems 3, 4 and 5. • Significant odour problems and potential concerns may make the MWPC facility unacceptable to the public, employees and/or the municipality and may result in restricted use or-closure of the facility. • System may promote less individual participation in 3Rs than Systems 1-5. • Some residents may not source separate their recyclables and food waste (for household composting) knowing that the garbage will be sorted for them at the MWPC facility. This could have a negative effect on the use of other components of the System and decrease support for 3Rs in the long run.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs (con't)	<ul style="list-style-type: none"> Participation in, and level of use of, backyard composting may increase but level of use of composter likely to decrease as more convenient option available. Short term increase in shopping at reuse centres. Longer term uncertain. 	<ul style="list-style-type: none"> Residents likely to be unwilling to pay the large tax increase (11%) per household. 	<ul style="list-style-type: none"> Municipalities likely to be unwilling to pay the high capital costs for the mixed waste processing System. Greater unwillingness to pay than for Systems 1-5. Residents likely to be unwilling to pay the large tax increase (11%) per household. Greater unwillingness to pay than for Systems 1-5. Potential for higher contamination of recyclables; may reduce the usability of the recyclables. Greater potential for contamination than Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> • Attitudes toward self-haul and landfill bans uncertain. • Provision of recycling service to all apartments/cooperative housing buildings may provide long term support for 3Rs and should increase positive attitudes to waste diversion. In particular, if apartment owners/managers are able to choose the system for their building. • Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. • Existing compost facility is likely to become less favourable if odour and health issues are not resolved. • Odour and health concerns associated with mixed waste processing and composting facility may lead to very negative attitudes and perceptions. • Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. • 3Rs promotion may change shopping behaviour, product design (durable, repairable) and packaging (reduction and recycle). • 3Rs promotion may increase awareness of the need for and benefits of 3Rs. May motivate people to participate. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • Municipalities will likely not be willing to contribute to the high capital and operating costs of the mixed waste processing and composting facility. • Residents likely to be unwilling to pay the 11% (\$136 per hhld) tax increase. • In short term uncertain if tenants and landlords are willing to assume additional costs for recycling and composting services. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. • Additional costs of leaf and yard waste collection and composting are currently acceptable to residents but costs may become an issue in the future. 		

TABLE B8.1
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 1 - Residential Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Participation may be limited by a lack of opportunities for multi-family residents (less participation by high rise, high and medium density multi-family buildings). Participation in recycling and composting by single families likely to continue at the 1994 rate. Potential minor increase in proportion of households participating in leaf and yard waste collection. Leaf and yard waste drop off will not be undertaken by many. Participation in 3Rs in multi-family residences is unknown, but expect low participation (Glenn, 1993). Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. Participation rates in backyard composting is likely to remain constant. Greater participation by individuals in pick up services (eg, white goods collection). Residents of municipalities without white goods collection may not be willing/able to drop off white goods. Short term increase in shopping at reuse centres. Longer term demand for used goods uncertain. 	<ul style="list-style-type: none"> Potential future concerns about the cost of leaf and yard waste collection and composting. Residents willing to pay for subsidized backyard composters, and to purchase used goods. Potential future concerns about the acceptability of MRFs, transfer stations and depots, depending on location. Greater participation with maintenance or slight increase in positive attitudes to 3Rs with more people using backyard composters and separating out recyclables due to distribution of additional backyard composters and promotion/education program. Residents and municipalities likely willing to pay for the system. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Residents are familiar with the system and are likely to continue to accept it. Greater familiarity than Systems 3, 5 and 6. Municipalities and residents are likely to continue to accept the costs of the system. Greater willingness than Systems 2-6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> For those in multi-family residences, this System offers fewer 3Rs participation opportunities than Systems 3-6. Limited encouragement for greater individual 3Rs' action, e.g., reduction and reuse. Less than Systems 3-6. This System does not promote reduction and reuse opportunities to the same extent as Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain. Residential recycling has positive effect by maintaining or increasing positive attitudes to 3Rs. General growth in positive attitudes to household composting. Composting facilities are likely to become less favourable if any odour and health issues are not resolved in the near term. As two of the three facilities are located at the landfill, this is likely to be less of an issue. Traffic, noise and litter issues may reduce the acceptability of the MRFs, transfer stations and depots, depending on location. 3Rs promotion increases awareness of the need for and benefits of 3Rs. Will motivate people to participate and promote changes in shopping behaviour for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Residents and municipalities are willing to pay the increase in tax per household of 2.0 percent or 25 dollars. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. Uncertain of the willingness of landlords and tenants to pay for recycling bins. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. In the longer term, the higher costs of locating and operating a composting facility may become an issue for some people. 		

TABLE B8.2
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 2 - Residential Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs System	<ul style="list-style-type: none"> Greater participation throughout residential sector with gains in multi-family groups. General acceptance of leaf and yard waste collection; participation levels likely to remain constant. Drop-off will not be undertaken by many. Expanded household composting in low and medium density residential areas with addition of 12,000 composters. Participation in backyard composting likely to remain constant. Vermicomposting likely to have low rates of participation. Short term increase in shopping at reuse centres. Longer term demand for used goods uncertain. 7 community recycling centres and neighbourhood and mini recycling depots may increase participation by rural households not served by collection, and a low proportion of other households. Participation in composting in multi-family residences is unknown but expected to be low (Glenn, 1993). Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 	<ul style="list-style-type: none"> Minor increase in positive 3Rs attitudes due to new recycling services in multi-family buildings, increase in household composting, increased recycling opportunities, effects of promotion/ education programs, and an increase in the availability of used goods. The costs and nuisance effects of leaf and yard waste collection and composting, as well as multi-family residential composting may be a concern in the future. Residents may be less willing to pay the 6 percent increase in household taxes to pay for the System (uncertain). 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Minor increase in participation because of recycling regulations, additional opportunities and education and promotion. Greater than System 1. Residents are familiar with the System and are likely to accept it because it does not involve any radical changes. Greater familiarity than Systems 3-6. Municipalities and residents may accept the costs of the System, but some residents may resist higher tax per household for System. Greater willingness to pay than for Systems 3-6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> System does not promote reduction and reuse opportunities to the same extent and Systems 3-6. Potential increase in participation less than Systems 3, 4 and 5. Residents may be less willing to pay for the System than for System 1.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> • Attitudes toward self-haul and landfill bans uncertain. • Positive effect by maintaining or increasing positive attitudes to 3Rs. • General growth in positive attitudes to household composting. • Composting facilities are likely to become less favourable if any odour and health issues are not resolved in the near term. Although this should not be a problem where compost sites are located at landfills. • Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on locations. • Reuse centres have positive effect; encourages individual and family can contribute to improving the environment. • 3Rs Promotion and Education may promote change in shopping behaviour for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • The 6 percent increase in tax per household (\$41) as a medium impact, is likely to reduce residents willingness to pay for the System. Some may oppose on the basis of the tax increase. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • Uncertain of the willingness of landlords and tenants to pay for recycling bins. • In the longer term the higher costs of locating and operating a composting facility may become an issue for some people. • Some people are willing to purchase used goods. 		

TABLE B8.3
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 3 - Residential Direct Cost

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> In the short term, some individuals and groups may oppose and not participate fully in the direct cost system, although in the longer term, participation is likely to increase. Any type of direct cost system implemented in a region where there is a significant proportion of high-rise buildings is likely to meet with mixed success (Skumatz and Zack, 1993; Krivit and Schmidt, 1992). In Peel, approximately 28 percent of households are multi-family and will not be covered by direct cost. Levels of participation by individuals and municipalities is uncertain because of a general lack of experience in instituting a Direct Cost system in larger jurisdictions. Potential for higher contamination of Blue Box in the short term. Increase in participation in recycling and in amounts recycled. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 	<ul style="list-style-type: none"> Potential for significant opposition to direct cost in some municipalities due to the high tax increase per household. Adaptation and participation will increase, but it may be too controversial in some municipalities. Potential for "contaminants" in Blue Box. Direct Cost does not apply to about 28 percent of the households (multi-family dwellings) and will not provide an incentive for them to participate in 3Rs. Potential difficulty in expanding composting in multi-family units if odour and insect problems occur. Increase in positive attitudes to 3Rs due to economic incentive for additional source separation to reduce garbage, expansion of household composting, promotion/education and increased use of reuse centres. Residents likely to use backyard composters more to reduce waste and disposal costs. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential to encourage greater 3Rs participation than Systems 1, 2 and 6 for 72 percent of households. Encourages people to change their waste management attitudes/behaviour by becoming more aware of how much and what they throw out. Greater than all other systems. Potentially higher level of use of backyard composters than all other Systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for direct cost systems to be controversial in some local municipalities. Greater potential for controversy than Systems 1, 2, 4 and 5. Potential public resentment at having to pay a high increase in taxes per household. Greater than Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> Expanded participation in household composting in low density residential areas. Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. Participation in backyard composting and level of use of composter is likely to increase as residents reduce garbage. Short term increase in shopping at reuse centres. Longer term uncertain. 3Rs Promotion and Education has positive effect through increased participation in 3Rs activities. 	<ul style="list-style-type: none"> Potential future concerns about the cost of leaf and yard waste collection and composting. Potential public resentment at having to pay directly for garbage collection. Potential for some residents to change behaviour to illegal dumping/burning. 	<ul style="list-style-type: none"> Potential for contamination of Blue Box. Greater than Systems 1, 2 and 4. Unlikely to significantly affect high density housing participation in 3Rs. Less participation than System 4. Greater potential for behaviour change to illegal dumping/burning by some residents than all other Systems.
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Initially, there will be some negative attitudes on the part of the public to a direct cost system. It may be viewed by the public as an additional "tax" on citizens (Proctor and Redfern Ltd., 1993; Globe and Mail, April 8, 1994). This attitude may change by implementing a direct cost system designed specifically for the Region (Reschovsky and Stone, 1994; Skumatz, 1993; Thivierge, 1992). Public education and consultation will be important to enhancing positive attitudes. In longer term, high participating households may perceive a distinct financial advantage over lower participating households, increasing their enthusiasm for the initiative. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain. Positive attitude toward recycling in multi-family buildings likely to be enhanced by allowing apartment owners/managers to choose system. General growth in positive attitudes to 3Rs supported by household composting. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. Encourages positive attitudes and perceptions that the individual/family can contribute to improving the environment. 3Rs education may promote change in shopping behaviour and demand for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Initial opposition to increased costs of collection of garbage without notification of decrease in taxes. Residents may be unwilling to pay the 8 percent increase in tax per household (\$129). Lower income households and larger households may be unable/unwilling to pay directly for garbage collection. After the phase-in period, households are likely to realize the benefit of diverting their waste and lower their "out of pocket" costs. Willingness of tenants and landlords to pay increased costs related to garbage disposal, recycling and composting is uncertain. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost for composters for those who have not purchased a composter. 		
Willingness to pay (cont'd)	<ul style="list-style-type: none"> In the longer term the higher costs of locating and operating a composting facility may become an issue for some people. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B8.4
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 4 - Residential Expanded Blue Box

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Greater participation throughout residential sector with largest gains in multi-family, lower-income and ethnic groups. Increase in types of material recycled. Generally acceptable of leaf and yard waste collection. Drop-off will not be undertaken by many. Expanded participation in household composting in low and medium density residential areas. Vermicomposting is likely to have low rates of participation. Participation in community composting is uncertain, but expected to be low. Participation in backyard composting likely to remain at 1994 levels. Uncertain of participation levels of rural residents who must self-haul. Community, neighbourhood and mini recycling depots provide increased opportunities. 	<ul style="list-style-type: none"> Greater participation in 3Rs as more 3Rs services are provided (additional Blue Box materials, composters, promotion/education). Potential difficulty in expanding composting in multi-family units if odour and insect problems occur. Proper design of collection systems and a system of choice for apartment building owners, managers and dwellers will be important. Some residents may be unwilling to pay high percent increase in household taxes for this System. Municipalities may be willing to participate in and financially support the expanded Blue Box System. Potential future concerns about the cost of leaf and yard waste collection and composting. Municipalities are familiar with strengths and weaknesses of the Blue Box System. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Expanded Blue Box System does not require a radical altering of 3Rs attitudes and behaviours. People and municipalities currently understand, support and participate in all the traditional components (Blue Box, backyard composters, etc.) of a Blue Box System. More familiar than Systems 3, 5 and 6. Suitable for low, medium and high density areas (Peel has 28 percent multi-family households). More suitable than Systems 3 and 5. The System would likely encounter less public opposition than System 3 and 6. Residents more likely to pay the high tax increase per household than for Systems 5 and 6. System is likely to promote greater source separation than Systems 5 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> Greater participation by individuals in pick-up services (eg. white goods collection). Short term growth in shopping at reuse centres. Longer term uncertain. Potentially positive effect through increased participation in 3Rs activities and changes to lifestyle. 		<u>Disadvantages</u> <ul style="list-style-type: none"> Residents may be unwilling to pay the high percentage increase in taxes. Higher increase than Systems 1 and 2.
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain. Positive effect by maintaining or increasing positive attitudes to 3Rs. General growth in positive attitudes to 3Rs supported by household composting. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Traffic, noise and litter may reduce the acceptability of some facilities, depending on location (minor effect). Consumer education could promote change in shopping behaviour and demand for changes in product design (durable, repairable) and packaging (reduction and recycle). 		<ul style="list-style-type: none"> This System may not encourage as diligent source separation as System 3.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Residents may be unwilling to pay the 8.0 percent increase in household tax (\$57). In short term uncertain if tenants and landlords are willing to assume additional costs for recycling and composting services. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. In the longer term the higher costs of operating composting facilities may become an issue for some people. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. 		

TABLE B8.5
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 5 - Residential Wet/Dry

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<p>It is difficult to predict the level of participation in a wet/dry System in Peel. High participation rates may not be feasible in apartments/high rises. Participation could be enhanced through education, personal contact and public consultation.</p> <p>There is no data on a North American wet/dry System in medium to high density urban areas. There would likely be opposition to the implementation of a wet/dry System from building owners/managers because of potential for vermin, insects, odours, hygiene concerns and potential cost. Some concerns may be addressed by developing various alternative Systems for large apartments.</p> <p>Potentially unacceptable for medium to high density development. The need to source separate in a bin system may cause significant odours in individual apartments and buildings.</p> <p>Residents, particularly elderly may not accept a 3-stream Wet/Dry System, if inconveniences such as odour, waste sticking to bin, and moving 90 gallon bins in winter are extensive.</p> <p>Current participation in backyard composting is high and is expected to be high in Peel because of a significant proportion of single-family dwellings. Overall rate of use may decline as others acquiring composters later may not be dedicated to its use or those with composters sort their waste into the "wet" stream.</p>	<p>Due to limited North American experience with Wet/Dry Systems, it is difficult to predict the attitudes and levels of participation on the part of residents. A Wet/Dry System has the potential to divert a significant quantity of the residential waste stream (approximately 60%), but it requires diligent source separation on the part of citizens. If a high enough level of household source separation is not achieved, the "dry" and "wet" streams could be severely contaminated, leading to poor compost quality and extensive sorting of dry recyclables.</p> <p>Attaining high levels of participation will be difficult with the following groups of people in Peel: elderly and disabled, apartment residents and possibly other multiple-family dwellings, and rural residents. Participation could be enhanced through high levels of education, information provision, personal contact and public consultation.</p>	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for less contamination than System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Residents are required to change their waste management behaviour. Greater change required than for Systems 1, 2, 3 and 4. Rural residents are likely to have difficulty participating. Greater difficulty than for all other Systems. Attaining high levels of participation will be difficult with the following groups in Peel: elderly and disabled; apartment residents and possibly other multiple-family dwellings (about 28 percent of households) and rural residents. Greater difficulty than all other Systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs	<ul style="list-style-type: none"> Participation in drop-off expected to be low. Vermicomposting likely to have low rates of participation. Participation in community composting expected to be low. If HHW depot is not convenient; it may lead to HHW in the wet or dry streams with potentially serious effects on the compost quality (Taylor, 1993). Municipalities may be hesitant to participate in Wet/Dry Systems because of compost contamination concerns and potentially higher costs associated with sorting the various streams. Short term increase in shopping at reuse centres. Longer term uncertain. Rural residents not served by Wet/Dry collection are not likely to separate waste. 3Rs Promotion and Education has likely a positive effect on participation. 	<ul style="list-style-type: none"> There is likely to be resistance from apartment owners and managers because of potential nuisance effects and costs. The 10.0 percent increase in tax per household (\$70) is considered a high impact on residents and they are likely to be unwilling to pay. The willingness of municipalities to pay the costs of the Wet/Dry System is unknown. Existing and new compost facilities are likely to become less favourable if odour and health issues are not resolved in the short term. The addition of increased amounts of "wet" waste, including meat waste from the Wet/Dry System, may aggravate the effects and lead to more negative attitudes on the part of citizens. 	<ul style="list-style-type: none"> Residents may not separate their food waste as diligently, particularly in winter. Potential for less source separation than Systems 1-4. Potential odour, health and vermin effects at composting facilities and storage facilities in apartment buildings. Greater than Systems 1-4. Residents and municipalities likely unwilling/unable to pay for the System. Greater unwillingness than Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> There is no data for a North American wet/dry System in medium to high density urban areas. There would likely be opposition to the implementation of a wet/dry System from building owners/managers because of potential for vermin, insects, odours, hygiene concerns and potential cost. Acceptance of separation into 3 separate bags is unknown. Residents, particularly the elderly may not accept a 3-stream Wet/Dry System if inconveniences such as odour, waste sticking to bin, and moving 90 gallon bins in winter are extensive. Existing compost facilities are likely to become less favourable if odour and health issues are not resolved in the short term. Although this may be less of an issue in Peel as two of the composting sites are located at landfills. A wet/dry facility may not be acceptable unless these problems can be addressed. Could reduce the perception of the need/benefit to use the backyard composter and to diligently source separate due to opportunity to place more items in the garbage stream. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. Reuse centres reinforce positive attitudes to 3Rs, and are seen as socially and environmentally beneficial. Promotion and Education will increase awareness of the need for and benefits of 3Rs and Wet/Dry. Will motivate people to participate. Will educate people on how to participate in a constructive fashion. Potential for multi-family residents to develop a negative attitude toward composting if nuisance effects prevalent. 	<ul style="list-style-type: none"> The Region and residents are likely to continue to accept and support 3Rs promotion and education. Residents are willing to pay up to 1/3 of the cost for composters. Level of acceptance and participation in multiple-family residences is uncertain but likely to be low. Support, participation and willingness to pay for leaf and yard waste collection is likely to continue in the short term. In the long term concerns about the cost and benefit may become an issue. If HHW depot is not convenient it may lead to decreased participation and potential contamination of wet/dry streams. 	

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> Residents likely unwilling to pay the 10 percent increase in tax per household (\$70). The willingness of municipalities to pay the costs of the wet/dry System are unknown. Municipalities may be hesitant to participate in Wet/Dry System because of potentially very high costs. Building owners/managers may be unwilling to provide wet/dry services to tenants due to costs. Additional costs of leaf and yard waste collection and composting are currently acceptable to residents but costs may become an issue in the future. A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education and promotion. Uncertain of acceptance of higher costs, for composters or for those who have not purchased a composter. Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. The region and residents are likely to continue to support 3Rs promotion and education. 		

TABLE B8.6
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Peel Region

SYSTEM : System 6 - Residential Mixed Waste Processing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Potentially greater participation throughout residential sector with largest gains in multi-family, lower socio-economic and ethnic groups. Some residents are likely to decide not to source separate some or all of their recyclables and food waste knowing that it will be separated for them at the central Mixed Waste Processing and Composting facility. Mixed waste processing conflicts with a philosophy of personal involvement in 3Rs; some municipalities may not want to be involved on that basis. 	<ul style="list-style-type: none"> Potential negative attitudes from potential significant odour effects and potential public and occupational health concerns with the processing and composting facility; may reduce participation and acceptability of the System. This could result in restricted use or closure of the facility. Change in participation in household source separation of materials is uncertain. Over time there could be a reduction in household participation due to provision of separation at the MWP facility. Municipalities and residents are not likely to be willing to pay for the System due to the high tax increase per household. Mixed waste processing conflicts with a philosophy of personal involvement in 3Rs; some municipalities may not want to be involved on that basis. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Level of participation in composting will be greater than Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> The opportunities for individual/community participation in composting are less than for Systems 3, 4 and 5. Significant odour problems and potential health concerns may make the MWPC facility unacceptable to the public, employees and/or the municipality and may result in restricted use or closure of the facility. Potential is greater than Systems 1-5. Some residents may not source separate their recyclables and food waste (for household composting) knowing that the garbage will be sorted for them at the MWP facility. This could have a negative effect on the use of other components of the System and decrease support for 3Rs in the long run and may lead to increased contamination.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Participation in 3Rs (cont'd)	<ul style="list-style-type: none"> General acceptance of leaf and yard waste collection. Participation in drop-off expected to be low. Vermicomposting has not met with wide acceptance and will probably have low rates of participation. Participation in community composting is uncertain, but expected to be low, due to availability of more convenient option. Participation in backyard composting may increase but level of use of composter likely to decrease as more convenient option available. Short term increase in shopping at reuse centres. Longer term uncertain. Residents of municipalities without white goods collection may not be willing/able to drop off white goods. 		<ul style="list-style-type: none"> Potential for less source separation and increased contamination greater than Systems 1-5. Municipalities and residents likely to be unwilling/unable to pay for the System. Greater unwillingness than all other Systems. System may promote less individual participation in 3Rs than Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and perceptions toward 3Rs activities	<ul style="list-style-type: none"> Attitudes toward self-haul and landfill bans uncertain. Provision of recycling service to all apartments and cooperative housing buildings may provide long term support for 3Rs and should increase positive attitudes to waste diversion. In particular if apartment owners/managers are able to choose the System for their building. Potential for multi-family residents to develop negative attitudes toward composting if odour, insect and rodent problems and health concerns persist. Existing compost facilities are likely to become less favourable if odour and health issues are not resolved. Although this is less likely at the compost sites located at the two landfills. Mixed waste processing and composting facility may lead to negative attitudes and perceptions. Potentially poor compost quality may reduce favourable attributes to the System. Traffic, noise and litter issues may reduce the acceptability of some facilities, depending on location. 3Rs promotion will increase awareness of the need for and benefits of 3Rs. May motivate people to participate. Consumer education may promote change in shopping for changes in product design (durable, repairable) and packaging (reduction and recycle). 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Willingness to pay	<ul style="list-style-type: none"> • The 18.0 percent increase in tax per household (\$137) is considered a high impact on residents and they are not likely to be willing to pay this tax increase. • Municipalities will likely not be willing to contribute to the high capital and operating costs of the mixed waste processing and composting facility. • In short term uncertain if tenants and landlords are willing to assume additional costs for recycling and composting services. • A proportion of residents in each municipality are willing to pay one-third the cost of backyard composters and appear willing to accept municipal expenditures for education/promotion. Uncertain of acceptance of higher cost, for composters or for those who have not purchased a composter. • Some people are willing to purchase used goods. If centres become convenient and shopping experiences acceptable, more people may be willing to pay for used items. • Additional costs of leaf and yard waste collection and composting are currently acceptable to residents but costs may become an issue in the future. 		

**TABLE B9.1
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT**

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 1 - IC&I Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Potential nuisance effects such as traffic, litter, and noise, associated with IC&I composting facilities, public and private dry waste processing facilities and depots. Effects dependent on operation, type of material, density of surrounding population and sensitivity of receptor. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential odour effects, health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with centralized and on-site composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 	<ul style="list-style-type: none"> Potential odour and health concerns associated with centralized composting facilities. Potential nuisance effects on residents, community features, businesses and communities associated with dry waste processing facilities, composting facilities and depots. Potential disruption of cultural heritage resources. Potential exposure of employees at dry waste processing facilities, and in particular compost facilities, to health and safety hazards. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Fewer potential negative impacts on local residents, special and sensitive groups, communities, community features and businesses than Systems 3-6. Least potential for displacement of all the systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> None compared to other systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> • Potential for employees at dry waste processing facilities, and in particular compost facilities, to be exposed to a variety of health and safety hazards. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. • Potential for health effects on allergy sufferers, people with immuno-deficiencies, etc. from IC&I composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 		
Potential effects on communities	<ul style="list-style-type: none"> • Potential stigma effect from private and public dry waste processing facilities and private compost facilities. Effects may be mitigated by proper siting of facilities. • Potential traffic inconveniences in communities due to collection vehicles. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features	<ul style="list-style-type: none"> · Potential stigma effect on community features and businesses from facilities. Effects may be mitigated by proper siting of facilities. · Potential odour effects, health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with centralized and on-site composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. · Potential minor nuisance effects on community features and businesses at some facilities associated with increasing flow of materials. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. · Potential displacement and disruption of cultural heritage resources. Mitigation includes facility site assessment and protection/conservation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Potential for public recognition to further encourage IC&I generators to engage in 3Rs activities. Public interest in waste management and the environment has had significant effects on corporate (public and private) culture. Concerns over public image, the environment, profitability and competitiveness are all key factors in developing strategies to deal with environmental and waste management problems. Many private corporations and public institutions have taken significant steps to manage waste. These steps vary from the multinational corporation that deals with the problem of waste management as part of its long term corporate strategy (Continuous Improvement of Just in Time programs, etc.), to day-to-day operational changes for most employees. In many cases these changes have been a source of employee and management pride. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect from encouraging management and employees to learn about and participate more in 3Rs activities. May lead to significant changes in operations and corporate philosophy. Potential for very minor direct employment and economic development opportunities. Potential for low additional cost to businesses, industries and institutions for 3Rs requirements. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System places the least amount of waste management regulation on the IC&I sector of all the systems. Potential cost benefit to individuals, industries and institutions greater than that of Systems 2-6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential to have the least positive effect on lifestyle (corporate culture) and IC&I waste management attitudes and operations of all the systems. Potential for direct employment and economic development opportunities less than that of all other systems.
Potential effect on employment	<ul style="list-style-type: none"> Potential minor direct employment gains in IC&I collection, sorting, composting and in recycling industries. Magnitude of gains is uncertain. Potential minor direct construction employment gains are possible for construction of facilities. Magnitude of gains uncertain. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development	<ul style="list-style-type: none"> · Potential minor direct economic benefits in IC&I collection, sorting, composting and in recycling industries. Magnitude, of effects is uncertain. · Potential for Government programs such as the Ontario Waste Exchange to aid industry in lowering costs of capital purchases. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> · Potential interference on business operations from lack of storage space. · Potential for low additional cost to businesses, industries and institutions for 3Rs requirements. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential for negative distributional effect on some local communities, population groups, institutions, industries and businesses located near private composting facilities and public and private dry waste processing facilities, as they may be affected by nuisance effects while other residents served by the facility are unaffected. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential for smaller businesses, institutions and industries (e.g. general construction contractors) to be more significantly affected by landfill bans than large ones because of their smaller economies of scale. 	<ul style="list-style-type: none"> Potential negative distributional effects from IC&I facilities on a some local communities groups, institutions, businesses and industries. Potential for minor positive future generational effect. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for fewer negative distributional effects from facilities than Systems 3-6. Potential for negative distributional effects from regulation less than for all other systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential positive effect for future generations less than for all other systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> No effects noted. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential for minor positive effect through wiser use of resources and conservation of the environment for use/enjoyment through recycling, composting and repair/reuse. Current generation bears small cost for minor change to more sustainable behaviour. 		

TABLE B9.2
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 2 - IC&I Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Potential nuisance effects such as traffic, litter, and noise, associated with increased flow of materials through IC&I centralise and on-site composting facilities, public and private dry waste processing facilities and depots. Effects dependent on operation, type of material, density of surrounding population and sensitivity of receptor. Effects may be reduced with consultation and proper management. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise associated with increased flow of materials through centralized composting facilities. May be reduced with public education, consultation and proper management. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 	<ul style="list-style-type: none"> Potential odour and health concerns associated with centralized and on-site composting facilities. Potential nuisance effects on residents, community features, businesses and communities associated with dry waste processing facilities, composting facilities and depots. Potential for employees at dry waste processing facilities and in particular compost facilities, to be exposed to health and safety hazards. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System 2 has fewer negative impacts on local residents, special and sensitive groups, communities, community features and businesses than Systems 3-6. Least potential for displacement. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> None compared to other systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Potential for employees at dry waste processing facilities and compost facilities to be exposed to a variety of health and safety hazards associated with an increased flow of materials. Should be minimized by education. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential for health effects on allergy sufferers, people with immuno deficiencies, etc. associated with increased flow of materials at IC&I composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential stigma effect on communities from increased flow of materials through existing public and private dry waste processing facilities, depots and private composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential traffic inconveniences in communities due to increased flow of materials transported by collection vehicles. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features	<ul style="list-style-type: none"> · Potential stigma effect on community features and businesses from increased flow of materials through existing public and private dry waste processing facilities, depots and private composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. · Potential minor nuisance effects on community features and businesses at some facilities associated with increasing flow of materials. Effects may be reduced with consultation and proper management. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. · Potential odour effects and health concerns associated with centralized composting facilities. Effects may be reduced with consultation and proper management. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Potential for public recognition of IC&I 3Rs initiatives to encourage IC&I generators. Public interest in waste management and the environment has had significant effects on corporate (public and private) culture. Concerns over public image, the environment, profitability and competitiveness are all key factors in developing strategies to deal with environmental and waste management problems. Many private corporations and public institutions have taken significant steps to manage waste. These steps vary from the multinational corporation that deals with the problem of waste management as part of its long term corporate strategy (Continuous Improvement or Just in Time programs, etc.), to day-to-day operational changes for most employees. In many cases these changes have been a source of employee and management pride. Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. Potential for greater change in small IC&I waste management with opportunities provided by Community Recycling facilities in Peel and reuse programs. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. May lead to significant changes in operations and corporate philosophy. Generally, these attitudes are positive, but they may turn negative because of the emphasis on regulations rather than voluntary measures. Potential for minor direct employment gains and economic benefits in all aspects of IC&I waste management. Potential for most of the 3Rs regulations, waste audits, waste reduction action plans and packaging audits to have minimal cost and operational effects on IC&I generators. However, mandatory source separation may be costly and result in significant operation changes for many IC&I generators. Potential greater opportunities for changes in small IC&I sector by provision of Community Recycling Centres in Peel and reuse programs throughout the GTA. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> System has the potential to encourage greater positive attitude change. Greater than all other systems. System places less waste management regulation on the IC&I sector than Systems 3-6. Therefore, individual businesses, industries and institutions may be potentially less affected. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Less potential to produce direct employment and economic development opportunities in the waste management sector than Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Potential minor direct employment gains are likely in IC&I collection, sorting, composting, consulting and in recycling industries. Potential minor direct construction employment gains are possible for construction of facilities. Magnitude of gains is uncertain. 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential minor direct economic benefits in IC&I collection, sorting, composting, and consulting. Magnitude, and timing of effects is uncertain. In the IC&I sector, a greater number of institutions, industries and businesses are recognizing that waste must be treated as a resource. Just as businesses increasingly seek to rationally manage human and fiscal resources, so also is the value of waste being recognized. Innovative institutions and companies that seek to reduce, reuse and identify markets for recycled materials may be more competitive than those that don't. Government can help institutions, commercial enterprises and industry in the transition. Adverse effects of regulations could be partially mitigated by establishing sufficient phase-in periods for each sector and each type of initiative. Waste audits and waste reduction workplans will not require a long phase-in; packaging audits and packaging reduction workplans will require somewhat longer, because of the need to rationalize the related manufacturing processes. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development (cont'd)	<ul style="list-style-type: none"> Potential for Government programs such as the Ontario Waste Exchange to aid industry in lowering costs of capital purchases. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential for the System to represent an added cost to many if not most of the IC&I sector, in particular smaller institutions, industries and businesses covered under the regulations. Mandatory waste audits, waste reduction action plans and packaging reduction action plans will likely not be too costly to implement. These negative effects could be minimized by both private and public action. Potential for many IC&I operators to be negatively affected by the provincial regulation that stipulates mandatory source separation of designated materials by major IC&I generators in the GTA. Many of these operators lack the space for mandatory source separation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential for negative distributional effect on some local communities, population groups, institutions, industries and businesses located near private composting facilities and public and private dry waste processing facilities, as they may be affected by nuisance effects associated with an increased flow of materials, while other residents served by the facility are unaffected. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential for smaller businesses, institutions and industries covered under the 3Rs regulations to be more significantly affected than large ones because of their smaller economies of scale. This may be partially off-set by Community Recycling Facilities in Peel and reuse programs for small IC&I generators throughout the GTA. 	<ul style="list-style-type: none"> Potential negative distributional effects from IC&I facilities on a few local groups, institutions, businesses and industries. Potential positive future generational effect. Potential for the System to negatively affect smaller businesses covered under the regulations. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for fewer negative distributional effects from facilities than Systems 3-6. Potential for negative distributional effects from regulation less than that of all the other systems. Potential for positive future generational effect greater than that of System 1. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for positive future generational effect is less than that of Systems 3-6.
Distribution of lifestyle effects	<ul style="list-style-type: none"> No effects noted. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential for minor positive effect through wiser use of resources and conservation of the environment for use/enjoyment through recycling, composting, repair/reuse. Current generation bears the costs for changing to more sustainable behaviour. 		

TABLE B9.3
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 3 - IC&I Extended 3Rs Regulations

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Potential nuisance effects such as traffic, litter, and noise, associated with existing IC&I composting facilities, and new and existing public and private dry waste processing facilities and depots. Effects dependent on operation, type of material, density of surrounding population and sensitivity of receptor. Effects may be reduced with consultation and proper management. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise with existing centralized and on-site composting facilities. May be reduced with public education, consultation and proper management. Mitigation to include proper planning, siting and design. Potential displacement of residents for new facilities. Effects may be mitigated by proper siting of facilities. 	<ul style="list-style-type: none"> Potential odour and health concerns associated with centralized and on-site composting facilities. Potential nuisance effects on residents, community features, businesses and communities associated with dry waste processing facilities, composting facilities and depots. Potential displacement and disruption of cultural heritage resources. Potential for employees to be exposed to health and safety hazards at dry waste processing facilities, and in particular at the compost facilities. Potential for displacement of residents, community features and businesses for new facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for health effects on local residents, special and sensitive groups, communities, community features and businesses less than that of Systems 5 and 6. Less potential for displacement than Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential nuisance effects and health concerns on residents, community features, businesses and communities, greater than those of Systems 1 and 2. Potential for displacement greater than that of Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> • Potential for employees to be exposed to a variety of health and safety hazards associated with an increased flow of materials at dry waste processing facilities and compost facilities. Should be minimized by education. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. • Potential for health effects on allergy sufferers, people with immuno deficiencies, etc. associated with increased flow of materials at IC&I composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 		
Potential effects on communities	<ul style="list-style-type: none"> • Potential stigma effect on communities from existing and new public and private dry waste processing facilities, depots and existing private composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. • Potential traffic inconveniences in communities due to increased flow of materials transported by collection vehicles. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features	<ul style="list-style-type: none"> • Potential stigma effect on community features and businesses from existing and new private dry waste processing facilities, depots and existing private composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. • Minor nuisance effects on community features and businesses at some facilities from existing and new public and private dry waste processing facilities, depots and existing private composting facilities. Effects may be reduced with consultation and proper management. Effects may be mitigated by proper siting procedures. • Odour effects and health concerns associated with centralized composting facility. May be reduced with public education, consultation and proper management. • Potential for displacement of community features and businesses for new dry waste processing facilities. Effects may be mitigated by proper siting of facilities. • Potential displacement and disruption of cultural heritage resources. Mitigation includes facility site assessment and protection/conservation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2: Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. Public recognition may further encourage IC&I generators to increase their 3Rs activities. Public interest in waste management and the environment has had significant effects on corporate (public and private) culture. Concerns over public image, the environment, profitability and competitiveness are all key factors in developing strategies to deal with environmental and waste management problems. Many private corporations and public institutions have taken significant steps to manage waste. These steps vary from the multinational corporation that deals with the problem of waste management as part of its long term corporate strategy (Continuous Improvement or Just in Time programs, etc.), to day-to-day operational changes for most employees. In many cases these changes have been a source of employee and management pride. Potential greater change in small IC&I waste management with opportunities provided by Community Recycling Centres in Peel and reuse programs throughout the GTA. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. May lead to significant changes in operations and corporate philosophy. Generally, these attitudes are positive, but they may turn negative because of the emphasis on regulations rather than voluntary measures. Potential minor direct employment gains and economic benefits in all aspects of IC&I waste management. Potential for most of the 3Rs regulations; waste audits, waste reduction action plans and packaging audits to have minimal cost and operational effects on IC&I generators. However, mandatory source separation may be costly and result in significant operational changes for many IC&I generators. Potential to have significant negative operational and cost effects on some institutions, businesses and industries. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for this System to require fewer operational changes and less cost than Systems 5 and 6 because of fewer regulations on the IC&I sector. Potential to produce greater direct employment gains and economic development opportunities than Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for the emphasis on regulation to lead to negative attitudes on the part of the IC&I sector. More potential negative effects than Systems 1 and 2. Potential for this System to result in operational changes for some institutions, businesses and industries because of regulation. Potentially more negative effects than Systems 5 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none">• Potential for minor direct employment gains in IC&I collection, sorting, composting, and consulting. Magnitude of gains is uncertain.• Potential for minor direct employment gains are likely in the construction sector. Magnitude of gains is uncertain.		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development	<ul style="list-style-type: none"> Potential for minor direct economic benefits in IC&I collection, sorting, composting, and consulting. Magnitude and timing of effects is uncertain. In the IC&I sector, a greater number of institutions, industries and businesses are recognizing that waste must be treated as a resource. Just as businesses increasingly seek to rationally manage human and fiscal resources, so also is the value of waste being recognized. Innovative institutions and companies that seek to reduce, reuse and identify markets for recycled materials may be more competitive than those that don't. Government can help institutions, commercial enterprises and industry in the transition. Adverse effects of regulations could be partially mitigated by establishing sufficient phase-in periods for each sector and each type of initiative. Waste audits and waste reduction workplans may not require a long phase-in; packaging audits and packaging reduction workplans may require somewhat longer, because of the need to rationalize the related manufacturing processes. Potential for Government programs such as the Ontario Waste Exchange to aid industry in lowering costs of capital purchases. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential for the System to represent an added cost to many if not most of the IC&I sector, in particular smaller institutions, industries and businesses covered under the regulations. Mandatory waste audits, waste reduction action plans and packaging reduction action plans likely may be too costly to implement. These negative effects could be minimized by both private and public action. Potential for the operations of many IC&I generators may be negatively affected; lacking space and operational capacity for mandatory source separation. This may result in safety hazards and added costs. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential for negative distributional effect on some local communities, population groups, institutions, industries and businesses located near existing and new private dry waste processing facilities composting facilities, as they may be affected by nuisance effects and displacement, while other residents served by the facility are unaffected. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential for smaller businesses, institutions and industries covered under System 3 regulations to be more significantly affected than large ones because of their smaller economies of scale. This may be partially off-set by the Community Recycling Centres in Peel and reuse programs throughout the GTA for small IC&I generators. 	<ul style="list-style-type: none"> Potential negative distributional effects from IC&I facilities on a few local groups, institutions, businesses and industries. Potential for positive future generational effect. Potential for System 3 regulations to negatively affect smaller businesses covered under the regulations, but they do not cover the smallest businesses in the GTA. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities is less than that for Systems 5 and 6. Potential for positive future generational effects is greater than that of Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities greater than that of Systems 1 and 2. Potential for positive future generational effect less than that of Systems 5 and 6.
Distribution of lifestyle effects	<ul style="list-style-type: none"> No effects noted. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential for minor positive effect through wiser use of resources and conservation of the environment for use/enjoyment through recycling, composting, repair/reuse. Current generation bears the costs for changing to more sustainable behaviour. 		

TABLE B9.4
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 4 - IC&I Expanded 3Rs Regulations

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Potential nuisance effects such as traffic, litter, and noise, associated with existing IC&I composting facilities, and new and existing private dry waste processing facilities and depots. Effects dependent on operation, type of material, density of surrounding population and sensitivity of receptor. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise with existing centralized and on-site composting facilities. May be reduced with public education, consultation and proper management. Mitigation to include proper planning, siting and design. Potential displacement of residents for new expanded dry waste processing facilities. Effects may be mitigated by proper siting of facilities. 	<ul style="list-style-type: none"> Potential odour and health concerns associated with centralized composting facilities. Potential nuisance effects on residents, community features, businesses and communities associated with dry waste processing facilities, composting facilities and depots. Potential displacement and disruption of cultural heritage resources. Potential exposure of employees at dry waste processing facilities, and in particular compost facilities, to health and safety hazards. Potential for displacement of residents, community features and businesses from facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for nuisance and health effects on local residents, special and sensitive groups, communities, community features and businesses less than that of Systems 5 and 6. Potential for displacement less than that of Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential nuisance effects and health concerns for residents, community features, businesses and communities, greater than those of Systems 1 and 2. Potential for displacement effects greater than that of Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> • Potential for employees at dry waste processing facilities and compost facilities to be exposed to a variety of health and safety hazards associated with an increased flow of materials. Should be minimized by education. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. • Potential for IC&I composting facilities to have potential health effects on allergy sufferers, people with immuno deficiencies, etc. associated with increased flow of materials. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 		
Potential effects on communities	<ul style="list-style-type: none"> • Potential stigma effect on communities from existing and new private dry waste processing facilities, depots and existing private composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. • Potential traffic inconveniences in communities due to increased flow of materials transported by collection vehicles. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features	<ul style="list-style-type: none"> • Potential stigma effect on community features and businesses from existing and new public and private dry waste processing facilities, depots and existing private composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. • Potential for minor nuisance effects on community features and businesses at some facilities from existing and new public and private dry waste processing facilities, depots and existing private composting facilities. Effects may be reduced with consultation and proper management. Effects may be mitigated by proper siting procedures. • Potential odour effects and health concerns associated with centralized composting facility. May be reduced with public education, consultation and proper management. Mitigation to include proper planning, siting and design. • Potential for displacement of community features and businesses for new dry waste processing facilities. Effects may be mitigated by proper siting of facilities. • Potential displacement and disruption of cultural heritage resources. Mitigation includes facility site assessment and protection/conservation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> · Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. · Public recognition may further encourage IC&I generators to engage in increased 3Rs activities. Public interest in waste management and the environment has had significant effects on corporate (public and private) culture. Concerns over public image, the environment, profitability and competitiveness are all key factors in developing strategies to deal with environmental and waste management problems. Many private corporations and public institutions have taken significant steps to manage waste. These steps vary from the multinational corporation that deals with the problem of waste management as part of its long term corporate strategy (Continuous Improvement or Just in Time programs, etc.), to day-to-day operational changes for most employees. In many cases these changes have been a source of employee and management pride. · Potential greater changes in small IC&I waste management with opportunities provided by Community Recycling Centres in Peel and reuse programs throughout the GTA. 	<ul style="list-style-type: none"> · Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. May lead to significant changes in operations and corporate philosophy. Generally, these attitudes are positive, but they may turn negative because of the emphasis on regulations rather than voluntary measures. · Potential minor direct employment gains and economic benefits in all aspects of IC&I waste management. · Potential for most of the 3Rs regulations, waste audits, waste reduction plans and packaging audits to have minimal cost and operational effects on IC&I generators. However, mandatory source separation may be costly and result in significant operational changes for many IC&I generators. Potential to have significant negative operational and cost effects on some institutions, businesses and industries. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> · Potential for this System to require fewer operational changes and less cost than Systems 5 and 6 because of less regulation. · Potential for direct employment and economic development opportunities is greater than that of Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> · Greater potential than Systems 1 and 2 to lead to negative attitudes on the part of the IC&I sector because of increased regulation. · Potential for this System to result in operational changes for some institutions, businesses and industries because of regulation. Potentially more negative effects than Systems 5 and 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> · Potential minor direct employment gains in IC&I collection, sorting, composting, and consulting. Magnitude of gains is uncertain. · Potential minor direct employment gains in the construction sector. Magnitude of gains is uncertain. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development	<ul style="list-style-type: none"> Potential minor direct economic benefits are likely in IC&I collection, sorting, composting, and consulting. Magnitude and timing of effects is uncertain. In the IC&I sector, a greater number of institutions, industries and businesses are recognizing that waste must be treated as a resource. Just as businesses increasingly seek to rationally manage human and fiscal resources, so also is the value of waste being recognized. Innovative institutions and companies that seek to reduce, reuse and identify markets for recycled materials may be more competitive than those that don't. Government can help institutions, commercial enterprises and industry in the transition. Adverse effects of regulations could be partially mitigated by establishing sufficient phase-in periods for each sector and each type of initiative. Waste audits and waste reduction workplans may not require a long phase-in; packaging audits and packaging reduction workplans may require somewhat longer, because of the need to rationalize the related manufacturing processes. Potential for Government programs such as the Ontario Waste Exchange to aid industry in lowering costs of capital purchases. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> Potential for the System to represent an added cost to many if not most of the IC&I sector, in particular smaller institutions, industries and businesses covered under the regulations. Mandatory waste audits, waste reduction action plans and packaging reduction action plans may likely not be too costly to implement. These negative effects could be minimized by both private and public action. Potential for the operations of many IC&I generators to be negatively affected because of lack of space and operational capacity for mandatory source separation. This may result in safety hazards and added costs. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential for negative distributional effect on some local communities, population groups, institutions, industries and businesses located near existing and new private dry waste processing facilities and composting facilities, as they may be affected by nuisance effects and displacement, while other residents served by the facility are unaffected. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential for smaller businesses, institutions and industries covered under System 4 regulations to be more significantly affected than large ones because of their smaller economies of scale. This may be partially off-set by the opportunities provided to small IC&I by the Community Recycling Centres in Peel and reuse programs throughout the GTA. 	<ul style="list-style-type: none"> Potential negative distributional effects from IC&I facilities on a few local groups, institutions, businesses and industries. Potential for positive future generational effect; current generation bearing the cost for waste management. Potential for System 4 regulations to negatively affect smaller businesses covered by the regulations, but do not cover the smallest businesses in the GTA. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities is less than that for Systems 5 and 6. Potential for positive future generational effects greater than that of Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from facilities greater than that for Systems 1 and 2. Potential for positive future generational effect less than that for Systems 5 and 6. Potential for negative distributional effect from regulation greater than that for Systems 1 and 2.
Distribution of lifestyle effects	<ul style="list-style-type: none"> No effects noted 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential for positive effect through wiser use of resources and conservation of the environment for use/enjoyment through recycling, composting, repair/reuse. Current generation bears the costs for changing to more sustainable behaviour. 		

TABLE B9.5
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 5 - IC&I Expanded 3Rs Regulations with Organics

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1: Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Potential nuisance effects such as traffic, litter, and noise, associated with new and existing public and private dry waste processing facilities, depots and IC&I composting facilities. Effects dependent on operation, type of material, density of surrounding population and sensitivity of receptor. Effects may be reduced with consultation and proper management. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise with new and existing, on-site and centralized composting facilities. May be reduced with public education, consultation and proper management. Effects may be mitigated by proper design, siting and planning. Potential displacement of residents for new or expanded dry waste processing facilities and compost facilities. Effects may be mitigated by proper siting of facilities. 	<ul style="list-style-type: none"> Potential for displacement of residents, community features and businesses from new dry waste processing facilities and compost facilities. Potential for odour effects and health concerns associated with centralized organic composting facilities. Potential nuisance effects on residents, community features, businesses and communities associated with dry waste processing facilities, composting facilities and depots. Potential displacement and disruption of cultural heritage resources. Potential for employees at dry waste processing facilities, and in particular compost facilities, to be exposed to health and safety hazards. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential nuisance effects and health concerns less than those of System 6. Potential displacement effects less than those of System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential nuisance, stigma effects and health concerns for residents, community features, businesses and communities associated with the composting of 90% of IC&I organic waste generation. Potential effects greater than those of Systems 1-4. Potential for displacement effects from new or expanded dry waste processing facilities and new composting facilities greater than those of Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Potential for employees at dry waste processing facilities, and in particular compost facilities, to be subjected to a variety of health and safety hazards. Should be minimized by education. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential health effects on allergy sufferers, people with immuno-deficiencies, etc. associated with increased flow of materials at IC&I composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential stigma effect on communities from existing and new private dry waste processing facilities, depots and composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential traffic inconveniences in communities due to increased flow of materials transported by collection vehicles. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features	<ul style="list-style-type: none"> Potential stigma effect on community features and businesses from existing and new private dry waste processing facilities, depots and composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential minor nuisance effects on community features and businesses at some facilities from existing and new public and private dry waste processing facilities, depots and composting facilities. Effects may be reduced with consultation and proper management. Effects may be mitigated by proper siting procedures. Potential odour effects and health concerns associated with centralized composting facilities. May be reduced with public education, consultation and proper management. May be mitigated by proper siting, design and planning. Potential for displacement of community features and businesses for new dry waste processing facilities and compost facilities. Effects may be mitigated by proper siting of facilities. Potential displacement and disruption of cultural heritage resources. Mitigation includes facility site assessment and protection/conservation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. Potential for public recognition to encourage management and employees to learn and participate more in 3Rs activities. Public interest in waste management and the environment has had significant effects on corporate (public and private) culture. Concerns over public image, the environment, profitability and competitiveness are all key factors in developing strategies to deal with environmental and waste management problems. Many private corporations and public institutions have taken significant steps to manage waste. These steps vary from the multinational corporation that deals with the problem of waste management as part of its long term corporate strategy (Continuous Improvement or Just in Time programs, etc.), to day-to-day operational changes for most employees. In many cases these changes have been a source of employee and management pride. Potential greater change in small IC&I waste management practice with opportunities provided by Community Recycling Centres in Peel and reuse programs throughout the GTA. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. May lead to significant changes in operations and corporate philosophy. Generally, these attitudes are positive, but they may turn negative because of the emphasis on regulations rather than voluntary measures. Potential for minor direct employment and economic development opportunities in all aspects of IC&I waste management. Potential for most of the 3Rs regulations, waste audits, waste reduction plans and packaging audits to have minimal cost and operational effects on IC&I generators. However, mandatory source separation may be costly and result in significant operational changes for many IC&I generators. Potential to have negative operational and cost effects on some smaller institutions, businesses and industries because of the need to separate organics. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for fewer operational changes and less cost than System 6. Potential for minor direct employment and economic development opportunities in the waste management sector greater than that for Systems 1 and 2. Potential for negative attitudes less than that for System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for the emphasis on regulation to lead to negative attitudes on the part of the IC&I sector is greater than that for Systems 1-4. Potential for System to result in operational changes and added costs for some small institutions, businesses and industries that generate organic waste is greater than that for Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Potential minor direct employment gains in IC&I collection, sorting, composting, and consulting. Magnitude of gains is uncertain. Potential minor direct employment gains in the construction sector. Magnitude of gains is uncertain. 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential for minor direct economic benefits in IC&I collection, sorting, consulting, and in particular composting. Magnitude and timing of effects is uncertain. Currently, some large institutions, businesses and industries send organic waste to compost facilities. Mandated organic separation would most likely have potential negative impacts on small and independent institutions, businesses and industries. Improved waste hauling service, staff time, infrastructure and space would be required. Potential additional costs for IC&I generators because the potential cost of marketing compost means that there is likely no economic benefit except for tipping fees saved by composting. In the IC&I sector, a greater number of institutions, industries and businesses are recognizing that waste must be treated as a resource. Just as businesses increasingly seek to rationally manage human and fiscal resources, so also is the value of waste being recognized. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development (cont'd)	<p>Innovative institutions and companies that seek to reduce, reuse and identify markets for recycled materials will probably be more competitive than those that don't. Government can help institutions, commercial enterprises and industry in the transition. Adverse effects of regulations could be partially mitigated by establishing sufficient phase-in periods for each sector and each type of initiative. Waste audits and waste reduction workplans may not require a long phase-in; packaging audits and packaging reduction workplans may require somewhat longer, because of the need to rationalize the related manufacturing processes.</p> <p>Potential for Government programs such as the Ontario Waste Exchange to aid industry in lowering costs of capital purchases.</p>		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential operational effects on institutions, commercial enterprises and industry	<p>Potential for the System to represent an added cost to many if not most of the IC&I sector, in particular smaller institutions, industries and businesses covered under the regulations.</p> <p>Mandatory waste audits, waste reduction action plans and packaging reduction action plans likely may not be too costly to implement. These negative effects could be minimized by both private and public action.</p> <p>Potential for the operations of many IC&I generators to be negatively affected because of lack of space for organic separation, resulting in potential health and nuisance effects.</p>		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential for negative distributional effect on some local communities, population groups, institutions, industries and businesses located near existing and new private dry waste processing facilities and composting facilities, as they may be affected by nuisance effects and displacement, while other residents served by the facility are unaffected. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential for smaller businesses, institutions and industries covered under these regulations to be more significantly affected than large ones because of their smaller economies of scale. This may be partially off-set by the opportunities provided to the small IC&I by the Community Recycling Centres in Peel and reuse programs throughout the GTA. 	<ul style="list-style-type: none"> Potential negative distributional effects from IC&I facilities on a few local groups, institutions, businesses and industries. Potential positive future generational effect with current generation bearing a larger portion of the cost. Potential for these regulations to negatively affect smaller IC&I generators, in particular small and independent stores, restaurants, etc. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for positive future generational effect greater than that of Systems 1 - 4. Potential for positive distributional effect greater than that of System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from new and existing facilities, particularly centralized organic composting facilities, on local residents institutions, and businesses is greater than that for Systems 1-4.
Distribution of lifestyle effects	<ul style="list-style-type: none"> No effects noted. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential for positive effect through wiser use of resources and conservation of the environment for use/enjoyment through recycling, composting, repair/reuse. Current generation bears the greater costs for changing to more sustainable behaviour. 		

TABLE B9.6
SYSTEM NET EFFECTS : SOCIAL ENVIRONMENT

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 6 - IC&I No Unprocessed Waste to Landfill

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Potential Local Community Impacts			
Potential effects on residents	<ul style="list-style-type: none"> Potential nuisance effects such as traffic, litter, and noise, associated with increased number of private dry waste processing facilities, depots and IC&I composting facilities. Effects are likely to be greater than under any other system because of requirement for mandatory processing of all waste. Effects dependent on operation, type of material, density of surrounding population and sensitivity of receptor. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential odour and health concerns and minor nuisance effects such as traffic, litter, birds, vermin and noise with new and existing centralized and on-site composting facilities. May be reduced with public education, consultation and proper management. Effects may be mitigated by proper design, siting and planning. Potential displacement of residents for new dry waste processing facilities and new composting facility. Effects may be mitigated by proper siting of facilities. 	<ul style="list-style-type: none"> Potential for displacement of residents, community features and businesses from new dry waste processing facilities and new composting facilities. Potential odour effects and health concerns associated with centralized composting facilities and mixed waste processing facilities. Potential nuisance effects on residents, community features, businesses and communities associated with dry waste processing facilities and composting, and transportation of greater volumes of materials. Potential displacement and disruption of cultural heritage resources. Potential exposure of employees at dry waste processing facilities and compost and mixed waste processing facilities to health and safety hazards. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> None compared to other systems. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for displacement effects is the greatest of all of the systems, because of the larger number of dry waste processing plants, mixed waste processing facilities and compost facilities. Potential for disruption effects is the greatest of all the systems because of the potential for negative nuisance effects and health concerns.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on special/sensitive groups	<ul style="list-style-type: none"> Potential exposure of employees at dry waste processing facilities, and in particular compost facilities, to a variety of health and safety hazards. Should be minimized by education. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential for health effects on allergy sufferers, people with immuno-deficiencies, etc. associated with increased flow of materials at IC&I composting facilities. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. 		
Potential effects on communities	<ul style="list-style-type: none"> Potential stigma effect on communities from increased number of private dry waste processing facilities, composting facilities, mixed waste processing facility. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential traffic inconveniences in communities due to increased flow of materials transported by collection vehicles. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effects on community features	<ul style="list-style-type: none"> • Potential stigma effect on community features and businesses from increased number of private dry waste processing facilities, composting facilities, mixed waste processing facility. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. • Potential nuisance effects on community features and businesses at some facilities from existing and new public and private dry waste processing facilities, depots and composting facilities and mixed waste processing facilities. Effects may be reduced with consultation and proper management. Effects may be mitigated by proper planning, siting and design procedures. • Potential odour effects and health concerns associated with centralized composting facilities. May be reduced with public education, consultation and proper management. May be mitigated by proper siting, design and planning. • Potential for displacement of community features and businesses for new dry waste processing facilities, mixed waste processing facilities, composting facility. Effects may be mitigated by proper siting of facilities. • Potential displacement and disruption of cultural heritage resources. Mitigation includes facility site assessment and protection/conservation. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 2 : Potential for Broad Social Impact			
Potential for lifestyle changes	<ul style="list-style-type: none"> Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. Potential for public recognition to further encourage management and employees to learn and participate more in 3Rs activities. Public interest in waste management and the environment has had significant effects on corporate (public and private) culture. Concerns over public image, the environment, profitability and competitiveness are all key factors in developing strategies to deal with environmental and waste management problems. Many private corporations and public institutions have taken significant steps to manage waste. These steps vary from the multinational corporation that deals with the problem of waste management as part of its long term corporate strategy (Continuous Improvement or Just in Time programs, etc.), to day-to-day operational changes for most employees. In many cases these changes have been a source of employee and management pride. Potential greater change in small IC&I waste management practice with opportunities provided by community recycling centres in Peel and reuse programs throughout the GTA. 	<ul style="list-style-type: none"> Potential positive social and lifestyle effect (corporate culture) by encouraging management and employees to learn and participate more in 3Rs activities. May lead to significant changes in operations and corporate philosophy. Generally, these attitudes are positive, but they may turn negative because of the very strong emphasis on regulations rather than voluntary measures. Potential minor direct employment and economic development opportunities in all aspects of IC&I waste management. Potential negative effect from imposition of operational and costs effects on most if not all institutions, industries and businesses in the GTA. Potential for most of the 3Rs regulations, waste audits, waste reduction action plans and packaging audits to have minimal cost and operational effects on IC&I generators. However, mandatory source separation may be costly and result in significant operational changes for many IC&I generators. Potential greater change in small IC&I waste management practice with opportunities provided by community recycling centres in Peel and reuse programs throughout the GTA. Potential significant increase in the volume of recyclable materials, improved markets and greater amounts of compost available. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for minor direct employment and economic development opportunities in the waste management sector is greater than that of Systems 1 and 2. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for the emphasis on regulation to lead to negative attitudes on the part of the IC&I sector. Compliance may be difficult to achieve. Potentially greater negative effect than all other systems. Potential for System to result in operational changes and added costs for most if not all institutions, businesses and industries in the GTA. Potentially more negative effects than all other systems.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on employment	<ul style="list-style-type: none"> Potential minor direct employment gains in IC&I collection, sorting, composting, dry and wet waste processing and consulting. Magnitude, timing, and direction of effects is uncertain. Potential minor direct employment gains in the construction of additional dry waste processing and mixed waste processing facilities and compost facilities. 		
Potential effect on economic development	<ul style="list-style-type: none"> Potential minor direct economic benefits are likely to result from IC&I collection, sorting, composting, and consulting. Magnitude, timing and direction of effects is uncertain. Currently, some large institutions, businesses and industries send organic waste to compost facilities. Mandated processing of all waste may negatively impact small and independent institutions, businesses and industries. Improved waste hauling service, staff time, infrastructure and space would be required. Potential for difficulty in marketing compost may mean that there is likely no economic benefit, except for tipping fees saved by composting. In the IC&I sector, a greater number of institutions, industries and businesses are recognizing that waste must be treated as a resource. Just as businesses increasingly seek to rationally manage human and fiscal resources, so also is the value of waste being recognized. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Potential effect on economic development (cont'd)	<ul style="list-style-type: none"> Innovative institutions and companies that seek to reduce, reuse and identify markets for recycled materials will probably be more competitive than those that don't. Government can help institutions, commercial enterprises and industry in the transition. Adverse effects of regulations could be partially mitigated by establishing sufficient phase-in periods for each sector and each type of initiative. Waste audits and waste reduction workplans may not require a long phase-in; packaging audits and packaging reduction workplans may require somewhat longer, because of the need to rationalize the related manufacturing processes. Potential for Government programs such as the Ontario Waste Exchange to aid industry in lowering costs of capital purchases. 		
Potential operational effects on institutions, commercial enterprises and industry	<ul style="list-style-type: none"> This System may represent an added cost to many if not most of the IC&I sector, in particular smaller institutions, industries and businesses. Mandatory waste audits, waste reduction action plans and packaging reduction action plans likely may not be too costly to implement. These negative effects could be minimized by both private and public action. Potential for most IC&I generators to be negatively affected by lack of space, leading to potential health effects and added operational costs. 		

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 3 : Distribution of Social Costs and Benefits			
Distribution of socio-economic effects on industry and population groups	<ul style="list-style-type: none"> Potential for negative distributional effect on some local communities, population groups, institutions, industries and businesses located near increased number of private dry waste processing facilities, composting facilities and mixed waste processing facilities, as they may be affected by nuisance effects and displacement, while other residents served by the facility are unaffected. Effects may be reduced with consultation and proper management. Mitigation to include proper planning, siting and design. Potential for smaller businesses, institutions and industries covered under these regulations to be more significantly affected than large ones because of their smaller economies of scale. This may be partially off-set by the opportunities provided to the small IC&I operations by the community recycling centres in Peel and reuse programs throughout the GTA. 	<ul style="list-style-type: none"> Potential negative distributional effects from IC&I facilities on a few local groups, institutions, businesses and industries. Potential positive future generational effect with the current generation bearing the costs for the change to more sustainable behaviour. Potential for these regulations to negatively affect smaller IC&I generators. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential positive future generational effect is greater than that of Systems 1-4. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative distributional effects from new and existing facilities greater than that of all other systems.
Distribution of lifestyle effects	<ul style="list-style-type: none"> No effects noted. 		
Potential future generation effects of System	<ul style="list-style-type: none"> Potential for positive effect through wiser use of resources and conservation of the environment for use/enjoyment through recycling, composting, repair/reuse. Current generation bears the greater costs for changing to more sustainable behaviour. 		

TABLE B10.1
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 1 - IC&I Existing

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Some small IC&I generators will participate in curbside Blue Box System where service is available. Some major IC&I waste generators will participate in source separation of dry and wet recyclables. Some major IC&I waste generators will voluntarily complete waste audits, waste reduction initiatives and emphasize reduction and reusable packaging (eg. thin-wall). Participation by smaller generators will not be as high as larger generators because of lack of resources (financial and human) and smaller economies of scale. Some IC&I associations will participate and encourage their members to be more active in 3Rs. 	<ul style="list-style-type: none"> Willingness to participate, generally a positive attitude and a degree of willingness to pay for waste management measures by some IC&I generators. Generally, larger IC&I generators will be more willing to pay and participate to a higher degree than small generators because of greater access to resources and larger economies of scale. Where municipal Blue Box service is available, small businesses are likely to participate. Willingness to compost by many IC&I generators provided there is no interruption in the acceptance of organics at composting facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potentially more acceptable to IC&I sector than Systems 2-6 because of the minimal amounts of regulation and emphasis on voluntary measures. Potential for negative financial and operational impacts is less than that of Systems 2-6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for participation is limited to only a small percentage of waste generators due to lack of regulation. Potential is less than that of Systems 2-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and Perceptions Towards 3Rs	<ul style="list-style-type: none"> IC&I generators of compost waste will be more willing to pay for composting provided these facilities continue to operate and accept the material. The periodic closing down of these facilities creates difficulties for IC&I generators. Grocery and food service industry will be interested in donation of food to reuse organizations, but are concerned about potential liability. Implementation of "Good Samaritan" legislation would address this concern. Positive attitude by many IC&I generators to participation in 3Rs, but preference is for voluntary measures rather than regulations. The institutional sector appears more willing to implement 3Rs programs than the commercial and industrial sectors. Generally, 3Rs programs foster greater employee pride and enthusiasm and can lead to corporate pride. 		
Willingness to Pay	<ul style="list-style-type: none"> IC&I sector will not be enthusiastic, but will generally comply with the extra costs imposed by landfill bans. By implementing a variety of voluntary programs, the IC&I sector is indicating that they are willing to pay some costs. 		

TABLE B10.2
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 2 - IC&I Existing/Committed

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1: Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Some small IC&I generators will participate in municipal curbside Blue Box System. Potential increase in participation by small IC&I generators with the addition of recycling centres in Peel and reuse programs throughout the GTA. Potential increase in the proportion of major IC&I waste generators that source separate dry and wet recyclables. Provincial 3Rs regulations will force major IC&I waste generators to participate in waste and packaging audits, reduction plans and mandatory source separation. Some IC&I waste generators have voluntarily implemented these initiatives. Participation by smaller generators will not be as high because of lack of resources (financial and human) and smaller economies of scale. Potential for IC&I associations to increase their level of participation. 	<ul style="list-style-type: none"> Willingness to participate, generally a positive attitude and a degree of willingness to pay for waste management measures by some IC&I generators. Potential negative attitudes towards new 3Rs regulations. Potential for larger IC&I generators to be willing to pay and participate to a higher degree than small generators because of greater access to resources and larger economies of scale. Where Blue Box service and recycling centres are available, small businesses will be likely to participate. IC&I operators not covered by the regulations may voluntarily participate more in waste diversion. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potentially more acceptable to the IC&I sector than Systems 3-6 because the regulations are targeted to the IC&I sectors that can best implement waste management measures. Participation may be limited to the small percentage of IC&I generators covered by the regulations, although some smaller operators may participate. Potential for participation is greater than that of System 1. Potential for negative financial and operational impacts less than that of Systems 3-6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Participation may be limited to the small percentage of IC&I generators covered by the regulations, although some smaller operators may participate. Potential participation less than that of Systems 3-6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and Perceptions Towards 3Rs	<ul style="list-style-type: none"> IC&I generators of compost waste will be more willing to pay for composting, provided these facilities continue to operate and accept the material. The periodic closing down of these facilities creates difficulties for IC&I generators. Grocery and food service industry are interested in donation of food to reuse organizations, but are concerned about potential liability. Implementation of "Good Samaritan" legislation would address this concern. Potentially negative attitudes on the part of IC&I waste generators to the provincial 3Rs regulations. Positive attitude by many IC&I generators to participate in 3Rs, but preference is for voluntary measures rather than regulations. The institutional sector appears more willing to implement 3Rs programs than the commercial and industrial sectors. Potential for those not covered by the regulation to increase their voluntary efforts to address the possibility expanded regulation. 		<ul style="list-style-type: none"> System is potentially less acceptable to the IC&I sector than System 1. This System has more negative financial and operational impacts than System 1.
Willingness to Pay	<ul style="list-style-type: none"> The IC&I sector will probably not be enthusiastic, but will comply with the extra costs resulting from the provincial 3Rs regulations. Some may realise a cost advantage. The IC&I sector will most likely continue to pursue individual initiatives in waste management and therefore demonstrate a willingness to pay some costs. 		

TABLE B10.3
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 3 - IC&I Extended 3Rs Regulations

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Some small IC&I generators will participate in municipal curbside Blue Box System. Potential increase in participation by small IC&I generators with the addition of recycling centres in Peel and reuse programs throughout the GTA. Potential significant increase in the proportion of major IC&I waste generators that source separate dry recyclables. System 3 regulations will force most IC&I waste generators to participate in waste and packaging audits, reduction plans and mandatory source separation (in particular dry materials). Some of these IC&I waste generators have voluntarily implemented these initiatives. Participation by smaller generators will not be as high because of lack of resources (financial and human) and smaller economies of scale. Potential for IC&I associations to increase their level of participation and their members' participation. 	<ul style="list-style-type: none"> Willingness to participate, generally a positive attitude and a degree of willingness to pay for waste management measures by some IC&I generators. Potential negative attitudes towards these more comprehensive regulations. It is likely larger IC&I generators will be willing to pay and participate to a higher degree than small generators because of greater access to resources, larger economies of scale and experience in waste management. Where Blue Box service and recycling centres are available, more small businesses will be likely to participate. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for participation significantly greater than that of Systems 1 and 2. Potential for negative attitudes and perceptions less than that of Systems 5 and 6. Potential for negative financial and operational effects less than that of Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative attitudes and perceptions on the part of more IC&I waste generators to the increased level and coverage of regulation, at least in the short term. Potential for negative attitudes greater than that of Systems 1 and 2. Potential for participation less than that of System 6. Potential for negative financial and operational impacts greater than that of Systems 1 and 2.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and Perceptions Towards 3Rs	<ul style="list-style-type: none"> · Grocery and food service industry are interested in donation of food to reuse organizations, but are concerned about potential liability issues. Implementation of "Good Samaritan" legislation would address this concern. · Potentially negative attitudes on the part of IC&I waste generators to System 3 regulations, in particular if markets are not well developed. · The institutional sector appears more willing to implement 3Rs programs than the commercial and industrial sectors. · Positive attitude by many IC&I generators to participation in 3Rs, but preference is for voluntary measures rather than regulations. 		
Willingness to Pay	<ul style="list-style-type: none"> · The IC&I sector will probably not be enthusiastic, but will comply with the extra costs imposed by the regulations. · IC&I generators of compost waste will be more willing to pay for composting, provided these facilities continue to operate and accept the material. The periodic closing down of these facilities creates difficulties for IC&I generators. · The IC&I sector will most likely continue to pursue individual initiatives in waste management and therefore demonstrate a willingness to pay some costs. 		

TABLE B10.4
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Greater Toronto Area.

SYSTEM : System 4 - IC&I Expanded 3Rs Regulations

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Some small IC&I generators will participate in municipal curbside Blue Box System. Potential increase in participation by small IC&I generators with the addition of recycling centres in Peel and reuse programs throughout the GTA. Potential significant increase in the proportion of major IC&I waste generators that source separate dry recyclables. System 4 regulations will force most IC&I waste generators to participate in waste and packaging audits, reduction plans and mandatory source separation of dry recyclables. Some IC&I waste generators have voluntarily implemented these initiatives. Voluntary participation by smaller generators may not be as high because of lack of resources (financial and human) and smaller economies of scale. Potential for IC&I associations to increase their level of participation and their members' participation. 	<ul style="list-style-type: none"> Willingness to participate, generally a positive attitude and a degree of willingness to pay for waste management measures by some IC&I generators. Potential negative attitudes towards mandated source separation. It is likely larger IC&I generators will be willing to pay and participate to a higher degree than small generators because of greater access to resources, larger economies of scale and experience in waste management. Where Blue Box service are recycling centres are available, small businesses will be likely to participate. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for participation greater than that of Systems 1 and 2. Potential for negative attitudes and perceptions less than that of Systems 5 and 6. Potential for negative financial and operational effects less than that of Systems 5 and 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative attitudes and perceptions on the part of more IC&I waste generators to the increased level and coverage of regulation greater than that of Systems 1 and 2, at least in the short term. Potential for negative financial and operational impacts greater than that of Systems 1 and 2. Potential for participation less than that of System 6.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and Perceptions Towards 3Rs	<ul style="list-style-type: none"> Grocery and food service industry are interested in donation of food to reuse organizations, but are concerned about potential liability issues. Implementation of "Good Samaritan" legislation would address this concern. The institutional sector appears more willing to implement 3Rs programs than the commercial and industrial sectors. Generally, positive attitudes by many IC&I generators to participation in the 3Rs, but preference is for voluntary measures rather than regulations. Potentially negative attitudes on the part of IC&I waste generators to System 4 regulations, in particular if markets are not well developed. 		
Willingness to Pay	<ul style="list-style-type: none"> IC&I generators of compost waste will be more willing to pay for composting, provided these facilities continue to operate and accept the material. The periodic closing down of these facilities creates difficulties for IC&I generators. The IC&I sector may be opposed to the extra costs imposed by the regulations. The IC&I sector will most likely continue to pursue individual initiatives in waste management and therefore demonstrate a willingness to pay some costs. 		

TABLE B10.5
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 5 - IC&I Expanded 3Rs Regulations with Organics

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Some small IC&I generators will participate in municipal curbside Blue Box system. Potential increase in participation by small IC&I generators with the addition of recycling centres in Peel and reuse programs throughout the GTA. Potential significant increase in the proportion of IC&I waste generators that source separate dry recyclables and wet waste. System 5 regulations will force IC&I waste generators to participate in waste and packaging audits, reduction plans and mandatory dry and wet waste source separation. Participation by smaller generators will not be as high because of lack of resources (financial and human) and smaller economies of scale. Potential for IC&I associations to increase their level of participation and their member's participation. 	<ul style="list-style-type: none"> Willingness to participate, generally a positive attitude and a degree of willingness to pay for waste management measures by some IC&I generators. Potential negative attitudes towards mandated organic waste separation on the part of small and independent IC&I generators. It is likely larger IC&I generators will be willing to pay and participate to a higher degree than small generators because of greater access to resources, larger economies of scale and experience in waste management. Where Blue Box service and recycling centres are available, small businesses will be likely to participate. IC&I generators will likely significantly increase their level of composting provided there is no interruption in the acceptance of organics at composting facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for participation greater than that of Systems 1 and 2. Potential for negative attitudes and perceptions less than that of System 6. Potential for negative financial and operational effects less than that of System 6. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for negative attitudes and perceptions on the part of some IC&I waste generators due to the increased level and coverage of regulation, in particular, from small and independent generators of organic waste (e.g., small grocery stores). Potential for negative attitudes greater than that of Systems 1-4. Potential for participation less than that of System 6. Potential for negative financial and operation impacts greater than that of Systems 1-4.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and Perceptions Towards 3Rs	<ul style="list-style-type: none"> IC&I generators of compost waste may be more willing in the future to pay for composting providing these facilities continue to operate and accept the material. The periodic closing down of these facilities creates difficulties for IC&I generators. The acceptance of this System in part will be based on continual acceptance of large volumes of IC&I organic waste. Grocery and food service industry are interested in donation of food to reuse organizations, but are concerned about potential liability issues. Implementation of "Good Samaritan" legislation would address this concern. Potentially negative attitudes on the part of IC&I organic waste generators (in particular smaller ones) to System 5 regulations, because of added costs and operational changes required. 		
Willingness to Pay	<ul style="list-style-type: none"> The IC&I sector, in particular those generators of organics, may be strongly opposed to these extra costs imposed by the regulations. 		

TABLE B10.6
SYSTEM NET EFFECTS : SOCIAL ACCEPTABILITY

REGIONAL MUNICIPALITY : Greater Toronto Area

SYSTEM : System 6 - IC&I No Unprocessed Waste to Landfill

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Criterion 1 : Social Acceptability			
Participation in 3Rs	<ul style="list-style-type: none"> Some small IC&I generators will participate in municipal curbside Blue Box System. Potential increase in participation by small IC&I generators with the addition of recycling centres in Peel and reuse programs throughout the GTA. Potential increase in the proportion of IC&I generators that source separate dry waste. System 6 regulations will force IC&I waste generators to participate in waste and packaging audits, reduction plans and mandatory source separation of dry waste. Participation by smaller generators will increase. Mandatory mixed waste processing forces small generators to comply they may do so at less operational cost (staff and space) but with greater financial costs. Potential for IC&I associations to increase their level of participation and their member's participation. 	<ul style="list-style-type: none"> Willingness to participate, generally a positive attitude and a degree of willingness to pay for waste management measures by some IC&I generators. Potential negative attitudes towards these very comprehensive regulations, in particular on the part of small and independent IC&I waste generators. It is likely larger IC&I generators will be willing to pay and participate to a higher degree than small generators because of greater access to resources, larger economies of scale and experience in waste management. Where Blue Box service is available, small businesses will be likely to participate. IC&I generators will likely increase their level of composting provided there is no interruption in the acceptance of organics at composting facilities. 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Potential for participation greater than that of Systems 1-5 because of the extent and coverage of regulation. <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Potential for very negative attitudes and perceptions on the part of some IC&I waste generators because of the increased level of regulation, increased cost of processing the wastes and increased operational problems. Potential for negative attitudes greater than that of Systems 1-5. Potential for negative financial and operational impacts greater than that of Systems 1-5.

Criteria/Indicator	System Net Effects by Indicator	System Net Effects by Criterion	Advantages/Disadvantages by Criterion
Attitudes and Perceptions Towards 3Rs	<ul style="list-style-type: none"> · Grocery and food service industry are interested in donation of food to reuse organizations, but are concerned about potential liability issues. Implementation of "Good Samaritan" legislation would address this concern. · Potentially strong negative attitudes on the part of many IC&I waste generators (in particular small ones) to System 6 regulations, because of added costs and need for significant operational changes. 		
Willingness to Pay	<ul style="list-style-type: none"> · The IC&I sector may be very opposed to the extra costs imposed by the regulations and in particular, the need for mandatory processing of all waste. 		

SCHEDULE C

Regional Municipal Staff Interview Summary

SCHEDULE C:

REGIONAL MUNICIPAL STAFF INTERVIEW SUMMARY

1.0 Purpose of Interviews

Regional Municipal staff were interviewed to obtain their views on the obstacles and potential for increased 3Rs diversion in their Regions. The interviews are to be supplemented by the GTA Resident Survey.

2.0 Representative Selection Criteria/Approach

Regional staff interviews were conducted by Hardy Stevenson and Associates in April, 1993. Staff in the five Regions were identified by Hardy Stevenson and Associates in consultation with RIS. They were determined to be the most knowledgeable staff on 3Rs and/or were familiar with the GTA 3Rs Analysis Project.

Those interviewed included senior planners, waste management commissioners and administrators of a Region's waste management program.

The regions had waste management/diversion programs that included:

- central and local composting sites,
- blue box collection programs,
- MRFs,
- Household Hazardous Waste Depots and,
- garbage collection services.

The thirty minute telephone interview for Regional representatives comprised eighteen questions (Schedule D) concerning:

- existing, possible and/or pending regional 3Rs policies,
- existing, possible and/or pending lower tier municipal 3Rs policies,
- perceived and/or documented 3Rs attitudes and behaviours in the residential and IC&I sectors,
- obstacles to increased waste diversion in the residential and IC&I sectors,

- existing, possible and/or pending waste management/diversion initiatives and,
- division of responsibility problems between the region and local municipalities.

3.0 List of Regional and Municipal Representative Key Contacts

The following is a complete list of regional and municipal representatives interviewed and the date of the interviews.

1. Region of Durham
Peter Watson - Public Works
April 15, 1993
2. Peel Region
Lisa Morgan-Fraser
Glenn Williams
April 16, 1993
3. Halton Region
Vic Lesnicki
Art Mercer
April 19, 1993
4. Metro Toronto
Andy Pollock
April 19, 1993

York Region was contacted on April 15, 1993. Upon request, the interview guide was faxed by Elizabeth Margles of Hardy Stevenson and Associates to Jeff Flewelling for deliberation and consultation with the Region's Board. Three telephone calls from Mark Stevenson to Jeff Flewelling ensued. York Region did not respond.

4.0 Summary of Key Points and Findings

None of the Regions surveyed have implemented official or draft 3Rs policies, principles or guidelines. None of the Regions' area municipalities have mandatory 3Rs by-laws. Peel and Halton Regions have implemented landfill bans on certain materials. Halton Region has a

landfill ban on recyclable material.

Three of the four Regions (Durham, Peel and Metro) surveyed have conducted (either internally or through contracting out) surveys to assess 3Rs attitudes, behaviours, and the success/influence of educational or promotional programs. Durham and Peel Regions mentioned the need for continued education and promotion to overcome the obstacles to increasing waste diversion in the residential sector.

Three Regions (Durham, Peel, Halton) mentioned that people seem to believe that they are participating enough in 3Rs activities and have no more time for increased 3Rs activities. This is seen as a barrier to increased waste diversion.

Three Regional representatives (Peel, Halton and Metro) cited the continued cross border hauling of IC&I waste as a barrier to increased waste diversion.

Peel and Halton Regions noted the attempt to unload or place inappropriate waste in landfill as an obstacle to increased waste diversion.

Peel and Halton Regions noted the inclusion of contaminated material in blue boxes as an obstacle to increasing waste diversion.

Peel and Halton Regions noted an entanglement of jurisdictional responsibilities between Regions and area municipalities. Durham and Metro Regions were satisfied with the current division of responsibilities between the Region and area municipalities.

Centralized composting facilities were noted by two Regions (Peel and Halton) as components of a five year 3Rs plan.

More effective Household Hazardous Waste programs are initiatives for two Regions (Peel and Halton).

Direct cost systems, or pay-by-bag garbage collection programs, are being considered by Peel and Halton Regions. Metro has suggested this as a consideration to its area municipalities but has no jurisdiction to enforce such a program.

Peel and Halton Regions are considering some form of mixed waste processing and/or collection program. Durham has not considered this type of program. Metro will not implement this type of program because of capital costs, the failure rates of existing mixed waste facilities, and because a mixed waste facility runs contrary to its philosophy of personal involvement in waste diversion.

Three out of four Regions surveyed (Durham, Peel and Metro) indicated that 3Rs initiatives are stalled because they have been waiting for some time for direction, guidelines and policies from the Province.

5.0 Summary of Findings by Region

5.1 Durham Region

Currently, Durham Region and its local municipalities have no official or draft 3Rs policies, principles or guidelines. The Region is waiting for direction from the MOEE regarding official guidelines for 3Rs initiatives.

In the early 90's, Durham Region conducted a telephone survey to gauge the impact of the Region's 3Rs promotion programs. Approximately two hundred households were surveyed.

Obstacles to increasing the amount of waste diverted in the Residential sector include the public perception that enough is being accomplished through the existing blue box program(s). Therefore, the Region must continue its promotional and educational programs to inform the public of the continued need for waste diversion/management.

Durham Region has little involvement with the IC&I sector except for helping with waste audits. The Region owns no landfill and takes an insignificant amount of IC&I recyclables. There is no reason to conclude that this situation will change.

Garbage collection is a municipal rather than Regional jurisdiction. Therefore, the Durham representative could not speak to the issue of a possible direct cost or pay-by-bag collection system. However, the Region is not aware of any concerns of the lower tier municipalities regarding a pay-by-bag system.

The Region is not considering:

- a wet/dry waste diversion program;
- a mixed waste processing facility; or,
- a neighbourhood composting facility.

The Region is setting up a fully operational leaf and yard waste composting facility.

There have been no complaints regarding the Regional leaf and yard waste composting facility. Residents called for information about the facility operations. The Region sent out a letter explaining the purpose of the facility, and invited interested parties for a tour of the

facility. The same letter was sent regarding the Regional MRF. No complaints were registered.

Neither the leaf and yard waste composting facility nor the Regional MRF can be expanded because the sites are too small.

The Region experiences no inefficiencies or barriers to waste diversion programs because of the division of responsibilities between the Region and lower tier municipalities.

5.2 Peel Region

Peel Region does not have an official 3Rs master plan. The draft 3Rs policy has not been approved.

Peel Region is waiting for clarification from the Province regarding 3Rs initiatives. Until then, there is difficulty in developing policies because the Region's and municipalities' roles will be established once the MOEE regulations are in place.

There are no specific Regional or municipal 3Rs by-laws, except IC&I bans on landfill and charges for those who do not comply.

Mississauga hired the Long Group to survey residents who participated in the wet/dry pilot project. Community meetings were held to discuss participation or the lack thereof. The Mississauga Clean City Campaign will be conducted with kitchen table chats of approximately 100 pilot area participants.

The Region hired the Long Group to survey residents and businesses in an informal meeting environment. The survey was designed to assess knowledge of waste management, government roles, and, where and how information regarding waste management was/should be disseminated.

The Peel Region representatives highlighted numerous obstacles to increasing waste diversion in the residential sector. These included:

- people in larger urban centres perceive more of a time constraint to participating in 3Rs programs;
- reaching people efficiently with communication, advertising and promotion initiatives is difficult in large urban centres, and more difficult with nine or ten different languages represented;

- backyard composting suffered because media reports linked composting to a rodent problem;;
- direct cost systems are difficult to implement because waste management is a political issue and a service that people traditionally have not paid for properly.

Peel Region noted two obstacles to increasing waste diversion in the IC&I sector: a continued attempt to unload banned material at landfill; and, continued waste hauling over the border to the United States.

Peel Region representatives identified many 3Rs initiatives that will or may take place over the next five years:

- Peel Region is examining the feasibility of a joint venture with the Region of Halton for a centralized composting facility.
- Homogenization of blue box programs and direct cost systems for the residential sector may occur.
- Disentanglement between the Region and the municipalities will occur.
- Community recycling centres and Household Hazardous Waste depots at these centres will be established throughout the Region. This system will include bins for specific wastes at local areas such as shopping malls, and will be provided to local businesses.
- Neighbourhood recycling depots will be established with street-locked collection containers in the downtown cores and in multi-residential dwellings.
- A Regionally owned but privately operated MRF will be constructed.

Peel Region is currently researching possible direct cost initiatives for garbage collection services.

The centralized composting facility would be a food/yard waste, 3 stream wet/dry facility.

Brampton is considering a neighbourhood composting facility.

There were a few odour complaints regarding the Region's leaf and yard waste composting facility. The effect was mitigated with a more frequent turning of the compost material.

The Peel Region representatives identified many inefficiencies and/or barriers to increased waste diversion created by the current division of responsibilities between the Region and lower tier municipalities:

- . The current division requires more effort to coordinate 3Rs programs and initiatives.
- . If waste collection was centralized, the Region could save money.
- . Disentanglement would free up staff to work on future programs.
- . Streamlined programs would result in employees being more cognizant of their specific responsibilities.

As long as there is a clear distinction of responsibilities between the Region and municipalities, the division can be helpful.

5.3 Halton Region

Halton Region has banned certain materials from landfill as a 3Rs policy. The Region has also banned recyclables from landfill, which forces residents to recycle.

No surveys have been undertaken to assess 3Rs attitudes and/or behaviour in the Region.

The Halton Region representatives identified some obstacles to increased waste diversion initiatives in the residential sector:

- . More and more materials are being added to the recyclable stream and residential blue boxes are not large enough. The boxes are overflowing.
- . People are tired from work at the end of the day and are not receptive to further directives about what they **have** to do.

Obstacles to increased waste diversion in the IC&I sector include:

- . Less expensive disposal fees in the U.S., which attract the Canadian IC&I sector and waste haulers.

- Small businesses claim they cannot afford to participate in IC&I waste management/diversion initiatives but they produce too much waste to participate in residential blue box programs, which results in inefficient waste diversion and streaming.

Over the next five years, Halton Region:

- is considering a wet/dry collection program;
- will increase the efficiency of Household Hazardous Waste management with a more effective but more expensive program;
- will continue to educate the public to "buy only what you need";
- will consider banning the collection of grass;
- is considering implementing a direct cost system;
- hopes to see new markets for recycled material; and,
- hopes to see an IC&I shared model approach to dividing waste management/diversion costs and responsibilities between the Province and the IC&Is that generate the waste.

Oakville has implemented a bag limit for garbage pick-up. Burlington will implement a bag limit in May, 1993. Halton Region is studying lifting mechanisms for collection trucks that would weigh bags. Halton is considering implementing a tag system that would limit the number of bags a household could put out according to the number of tags issued.

There currently exists a user pay system at most of the Region's drop-off centre depots, regardless of the weight of the waste. At one depot, a cost is applied only after 150 kg.

There is general agreement in the Region and lower tier municipalities that a direct cost system is feasible.

The Region might consider a 3 stream (kitchen/yard organics, recyclables and garbage) wet/dry diversion program in two years. Pick up of food waste will remain a component of an every week system.

The centralized composting facility will be a mixed waste processing facility. The site will also include a Household Hazardous Waste depot and landfill.

The Region is not considering neighbourhood composting facilities, although each municipality has a leaf and yard waste composting facility.

There were significant odour complaints regarding the Region's leaf and yard waste composting facility. The effect has been mitigated with the private contracting of facility operations.

There is no regionally owned MRF.

The Halton Region representatives noted that siting an expanded or other waste management/diversion facility is difficult because of the siting process and the need for an appropriate piece of land with an adequate surrounding buffered zone.

Halton Region will be moving to a single tier waste management system where the Region would manage collection and disposal of residential waste. Currently, the Region is responsible for disposal and the municipalities are responsible for collection. There are difficulties in coordinating 3Rs programs with the current split jurisdiction. There is, however, a benefit to the current division of responsibilities between the Region and municipalities from the customer service point-of-view, i.e., local foremen are more accessible to answer concerns than in a larger Regional infrastructure.

The Halton representatives cited a further need for door-to-door education of residents regarding the 3Rs.

Halton is considering water reduction as a 3Rs initiative.

5.4 Metro Toronto

Metro had been preparing detailed draft policies as part of their Draft Waste Management Plan for the SWEAP program, but the IWA announcement has delayed consideration of the Plan. The Plan has not been approved by Council.

There are no 3Rs by-laws in effect for the residential sector. IC&I is not within Metro's jurisdiction.

There have been 3Rs attitudinal and behavioral surveys conducted by Poole-Adamson, Metro Works Committee and Virginia Maclaren.

The Metro Toronto representative highlighted two obstacles encountered by Metro to increasing waste diversion in the residential sector:

- The cost of programs and cost sharing with area municipalities. The program cost for blue box recycling is currently significantly greater than that for landfilling.
- An existing agreement states that after five years, collection costs are to be passed from Metro to the area municipalities. This creates a burden for area municipalities since the recycling fleet has to be replaced.

One obstacle for increasing waste diversion in the IC&I sector was identified:

- The low U.S. tipping fees attract cross border waste hauling. There is no incentive for Ontario manufacturers to participate in expensive recycling strategies if they can haul waste over the border at a significantly lower cost.

Over the next five years Metro must contemplate the costs of continued 3Rs waste diversion programs, including incorporating the cost of recycling into the cost of the product to be passed on to the consumer.

In the IC&I sector over the next five years:

- There should be changes in the export situation and marketing of recycled products.
- To be financially feasible for private sector collection, waste materials must have a high recycling value. Only a few materials currently do. New markets must be identified and encouraged.

The proposed 3Rs regulations would help with both these issues by limiting export and stimulating new markets.

Metro has suggested to area municipalities that they consider direct cost programs for garbage collection. However, Metro has no jurisdiction to enforce these suggestions.

The administration and implementation of a direct cost system might be complex and therefore difficult to execute. The costs of starting and sustaining such programs might outweigh their possible benefits.

Metro completed a 3 stream (organics/recyclables/garbage) wet collection pilot project that included alternate week pick up of some streams, maintaining every week collection of food waste because of health and odour concerns. The results of the project are currently being evaluated.

A centralized mixed waste processing facility is not being considered by Metro due to the high failure rate of other similar facilities, coupled with the extreme capital costs associated with a mixed waste facility. Moreover, the Metro representative noted that mixed waste collection is contrary to Metro's 3Rs philosophy of personal involvement.

Metro has some composting systems at multi-residential dwellings using a 3 bin system. Because there have been many problems with municipal composting facilities, neighbourhood composting facilities are unlikely.

There is a centralized composting facility at the North Dufferin Transfer Station, but it is not operating since the wet collection pilot project has just been completed. There were some complaints about odour emanating from this facility.

There have been no complaints registered regarding the operation of the MRF.

The division of responsibilities between Metro and area municipalities has worked well for both jurisdictions. If the area municipalities had to assume the costs of blue box programs, they might re-evaluate the system and move to less frequent collection.

The centralizing of recycled materials collection and markets has given Metro more leverage in the market, since it can offer greater volumes and a steadier supply of materials.

6.0 Regional Municipal Representative Interview Survey

Region:

Contact Name:

Telephone #:

Date:

Introduction

1. Has Regional Council approved any 3Rs policies?
(If yes may we obtain a copy)

(If no) Has the Region developed draft 3Rs policies, principles or guidelines?

2. Has the Region or any of the local municipalities approved any 3Rs by-laws (e.g., mandatory recycling by-laws)?
3. Has the Region or the lower tier municipalities surveyed residents' attitudes to 3Rs?
(If yes, may we obtain a copy of the survey)
4. What do you think are the greatest obstacles to increasing the amount of waste diverted in the GTA by Residents and the Institutional, Commercial and Industrial Sector?

Greatest obstacles to diversion by residents?

Greatest obstacles to diversion by the Institutional, Commercial and Industrial Sector?

5. Over the next 5 years, what changes do you think might take place in the GTA in residential 3Rs programs and in IC&I programs?

Changes in residential 3Rs programs?

Changes in Institutional, Commercial and Industrial 3Rs Programs?

6. Some municipalities have considered charging households by the bag for garbage or limiting the number of bags that a household can put out for pick-up each week. Has the Region considered charging households by the bag for garbage or placing a limit on the number of bags of garbage that each household is allowed to put out for pick-up?

If yes, probe for the key considerations in the Region's discussions.

7. Have any concerns been expressed by the lower tier municipalities about a pay-by-the-bag garbage system or on limiting the number of bags of garbage allowed?
8. Has the Region considered a wet/dry waste diversion program?
9. If yes, how many streams were considered?

Why?

(Probe re: two week storage of food waste)

10. Has the Region considered a system that would require a mixed waste processing facility?

If yes, probe for difficulties and benefits of the siting and operation of the facility were identified?

11. Neighbourhood composting facilities have been considered in some municipalities. Has the Region considered establishing neighbourhood composting facilities?

If yes what difficulties and benefits were identified in establishing a neighbourhood composting facility?

12. Are you aware of any complaints or concerns expressed about the Region's leaf and yard waste composting facility?

13. If there is an MRF in the Region:

Are you aware of any complaints or concerns expressed about the facility?

14. Can you think of any difficulties with expanding your composting/MRF facility or with constructing larger composting or MRF facilities elsewhere in the GTA?

Do you think any of the difficulties you mentioned are related to the location of the facility?

(e.g. types of land)

15. Does the current division of 3Rs responsibilities between the local municipal government and the Region create any inefficiencies or other barriers to increasing the amount of waste diverted?

(Interviewer Note: Disentanglement is the term used to improve coordination of the 3Rs program).

16. Does the current division of responsibilities create any benefits?

17. Can you identify any other problems with the implementation of the municipality's 3Rs policies or principles? (e.g. union/management problems)

18. Do you have any other concerns or comments regarding the 3Rs program in the region?

SCHEDULE D

IC&I Association Interview Summary

SCHEDULE D: IC&I ASSOCIATION INTERVIEW SUMMARY

1.0 Purpose of the Interviews

Interviews of representatives of the IC&I sector were required

- to obtain information on the IC&I sector's attitudes and opinions on 3Rs activities affecting participation in existing 3Rs activities/programs, including:
 - attitudes toward 3Rs (eg., benefits to the company/organization)
 - knowledge of and current involvement in 3Rs activities
 - reasons for type and level of involvement
 - barriers to and opportunities for participation (e.g., costs, union procedures, insurance difficulties)
 - expected future 3R behaviour
 - input and suggestions to 3Rs options
 - employment changes by type of activity
- to obtain information on the acceptability of a number of future 3Rs waste diversion options and their potential effects on institutional, commercial and industry operations.

2.0 Association Selection Criteria/Approach

IC&I association interviews were conducted by Hardy Stevenson and Associates (HSA) in April and May, 1993. The IC&I associations interviewed were identified by Hardy Stevenson and Associates and Resource Integration Systems (RIS) based on an analysis of IC&I waste generators in the Greater Vancouver Regional Districts (GVRD). In consultation with RIS, HSA highlighted those IC&I sectors which generated the most waste in the GVRD based on RIS's assumption that the major waste generators would be the same for the GTA. Associations were identified for each IC&I sector. In addition, HSA identified associations which may not represent a single IC&I sector, but which has a definite interest in waste management (e.g., The Packaging Association of Canada).

The forty-five minute telephone interview (See Schedule C-22) for IC&I representatives was comprised of twenty-three questions regarding:

- number of member associations,

- . typical types of wastes generated by member associations,
- . development of and participation in waste management initiatives of individual associations and parent associations,
- . obstacles and opportunities to increased waste diversion in the IC&I sector and implementation of 3Rs programs,
- . regulations that have affected member associations,
- . future 3Rs goals for member associations and parent associations,
- . factors that would increase 3Rs initiatives and participation, and,
- . specific types of waste diversion programs.

Table 1
Data Sources

SIC Description	Major IC&I Group	% Waste Generated
Retail - Food, Beverage, Drug, & Tab.	Retail	12.55
Health & Social Services	Non-Commercial Services	9.10
Food & Beverage, Service	Commercial Services	8.69
Transportation Industries	Transportation, Communication, Utilities	7.95
Government Services - Local	Public Administration	6.05
Education Services Industries	Non-Commercial Services	3.84
Retail Auto Sales, Parts, Service	Retail	3.4
Manufacturing - Food	Manufacturing	2.94
Business Services Industries	Commercial Services	2.77
Accommodation Services	Commercial Services	2.55
Retail - Furniture & Appliances	Retail	2.41
Manufacturing Industry - Paper	Manufacturing	2.24
Manufacturing Industry - Wood	Manufacturing	2.07

Source: adapted from CH 2M Hill, 1993

3.0 List of IC&I Representatives and Key Contacts

The following is a complete list of IC&I associations, representatives and/or key contacts interviewed and the date of the interviews.

1. Ontario Restaurant Association
Constance Wrigley
April 23, 1993.
2. The Board of Trade of Metropolitan Toronto
Rosemary Colucci
April 23, 1993.
3. The Packaging Association of Canada
Larry Dvorkin
April 26, 1993.
4. Canadian Federation of Independent Businesses
Ted Mallet
April 28, 1993.
5. The Toronto Board of Education
Mieke Foster
April 29, 1993.
6. Toronto Construction Association
Paul Lasanti
April 29, 1993.
7. Canadian Council of Grocery Distributors
Arlene Lannon
May 22, 1993.

NB: Three other associations were contacted during the interview period. Interviews were not conducted because the associations' representatives did not return repeated telephone calls. In 3 cases the associations requested that the questionnaire be sent to them for review before they could commit to an interview.

4.0 Summary of Key Points and Findings

The varying and distinct enterprises and associations interviewed provided an equally diverse amount of information. However, there were some key common findings regarding the opportunities and constraints to increased waste diversion.

4.1 Opportunities

- Association members support waste reduction as a goal for the associations and individual member businesses.
- The associations have developed or provided educational/promotional materials to their members on 3Rs.
- There have been no legal liability problems due to 3Rs initiatives.
- There have been significant changes in day-to-day operations of different businesses in the IC&I sector as a result of 3Rs programs.

4.2 Constraints

- All aspects of waste management represent significant costs to the IC&I sector. Member businesses are concerned with the costs of 3Rs initiatives and regulations.
- The enterprises within the IC&I sector want an increased consultative role with the MOEE to communicate their specific concerns, and to have input to policy/guidelines where appropriate.
- The lack of support by government, staff priorities, and lack of market infrastructures are obstacles to increasing waste diversion programs in the IC&I sector.
- Tipping fees were cited as a regulation/policy that has created a competitive disadvantage for GTA companies.
- There have been significant changes in the day-to-day operations of different associations in the IC&I sector as a result of 3Rs programs (e.g. sorting waste).
- Economies of scale are important. Larger IC&I generators will likely be able to implement programs with relatively greater ease than smaller IC&I generators.

5.0 Summary of Findings by Association

5.1 Ontario Restaurant Association

The Ontario Restaurant Association has 2,700 members in its organization; fifty percent have operations in the GTA.

The waste produced by member businesses typically includes thirty nine percent organic waste (recent Canadian Restaurant Association study). The remaining sixty one percent of waste is made up primarily of paper, corrugated cardboard, glass bottles and plastics.

Among members there is strong support for waste reduction as a business goal, if only to avoid having to pay high tipping fees.

The Ontario Restaurant Association representative measured member involvement in 3Rs initiatives as follows:

- 50% implementing packaging changes to reduce waste
- 30% purchasing practices promoting 3Rs
- 80% reducing materials used
- 80% separating materials for garbage and recycling
- 70% using recycled materials
- 20% implementing technological changes to reduce waste
- 75% contracting waste haulers to take recyclables

The Ontario Restaurant Association, as the parent organization, distributes any information regarding 3Rs programs, pilot projects and workshops to member businesses.

The Ontario Restaurant Association representative rated the importance of the following in member businesses' 3Rs involvement:

- | | |
|---|--------------------|
| Employee Interest | Very Important |
| Cost Competitiveness | Very Important |
| Response to/Anticipation of Regulations | Not Very Important |
| Environmental Concern | Not Very Important |
| Good for Public Image | Important |
| Easily Implementable | Very Important |
| Landfill Tipping Fees | Important |
| Shareholder Interest | Not Very Important |

It was noted that aggressive 3Rs initiatives are more costly for smaller, non-chain restaurants that do not have the financial backing that chain restaurants might have (e.g., McDonalds).

The main obstacles to the implementation of 3Rs programs are cost and the lack of municipal infrastructures to support the programs. However, there are no existing regulations that adversely affect member businesses.

One major restaurant has changed its operations to include a 3Rs program by separating and selling its food waste to a farmer for animal feed.

There could be some legal liability problems in executing 3Rs programs for restaurants, in that there are health concerns/risks in storing food waste and a lack of storage space for food waste in most restaurants.

Most restaurant staff are supportive of 3Rs endeavours. Younger staff are more aware of environmental issues. Managers and owners may be less supportive because of the costs associated with implementing waste reduction/management programs.

The lack of standardization of waste management/collection programs between municipalities creates some competitive disadvantages among member businesses. For restaurants in municipalities where businesses have to pay higher waste collection costs, less money can be redirected into the business and accumulate as profit.

In the next two years the Ontario Restaurant Association will remain active in the MOEE Waste Reduction Office's Wet Waste Steering Committee. The Ontario Restaurant Association will support whatever endeavours and policies the Canadian Restaurant Association undertakes.

Increased participation rates could be achieved with lower program costs, according to the association representative.

Waste audits to identify the types of waste generated by different associations would lead to more effective waste management strategies in large urban centres like the GTA.

The Association would like a continued and increased consultative role with the MOEE to develop industry specific waste management policies.

The Ontario Restaurant Association representative noted that it is very important for member businesses to have a proactive image regarding the 3Rs.

5.2 The Board of Trade of Metropolitan Toronto

The Board of Trade of Metropolitan Toronto has approximately thirteen thousand member businesses with operations in the GTA.

The Board representative could not speak to the issue of typical type(s) of waste generated by member businesses because the make-up of businesses is so diverse. The same was noted for questions regarding what percentage of businesses are involved in specific 3Rs initiatives. However, member businesses do support waste reduction as a goal.

The Board of Trade produced a Waste Management Code of Practice which members were encouraged to adopt. The Board also publishes a monthly magazine in which there have been articles relating to successful 3Rs programs implemented by member businesses.

The Board of Trade's representative rated the importance of the following in member businesses' 3Rs involvement:

Employee Interest	Very Important
Cost-Competitiveness	Very Important
Response to/Anticipation of Regulation	Very Important
Environmental Concern	Very Important
Good for Public Image	Very Important
Easily Implementable	Important
Landfill Tipping Fees	Important
Shareholder Interest	Important

The size of a business is a factor in responding to or developing 3Rs initiatives.

The Board's representative noted the lack of education and a necessary infrastructure as significant obstacles to adopting 3Rs programs.

The costs to business for waste management/diversion have been indirectly increased by the Waste Management Act, Provincial restrictions regarding landfill siting, and the prohibiting of incineration and transporting waste to willing communities.

The current waste management requirements such as tipping fees create a competitive disadvantage among businesses because fees are so much higher in Ontario than in surrounding jurisdictions, including the U.S. This situation forces businesses to haul their waste to areas with affordable tipping fees, (like the U.S.) at a transportation cost to waste generators. This also causes a reduction in business for landfill owners in Ontario.

Some businesses have installed retrofits for machinery as waste reduction endeavours.

Workers have responded well to 3Rs initiatives, management less so.

In the next two years, the Board of Trade of Metropolitan Toronto and member businesses will consider the implementation of further 3Rs initiatives. They recognize that they might be legislated to implement specific 3Rs programs.

The Board's representative cited increased markets and education regarding existing markets for diverted material as helpful in increasing member businesses 3Rs involvement in 3Rs activities. A greater certainty regarding what regulations will be handed down from the Province would increase program implementation. It would be helpful for businesses to be aware of Provincial proposals or policies being considered for the future.

This uncertainty regarding possible Provincial guidelines and regulations lessens the opportunity for businesses to develop and implement 3Rs programs, because the Province could mandate 3Rs activities that would alter existing programs at a further cost to business.

Some businesses have adopted technological changes that support the 3Rs (e.g., chemical glue manufacturer altering its reprocessing system to produce a non-toxic product).

Economic and environmental factors, as well as public opinion, were cited by the Board's representative as important factors in developing waste management strategies in the IC&I sectors.

If three stream waste management plans are cost efficient and environmentally effective methods to deal with waste, then this type of system could be welcomed by business (unlike the blue box program which may be somewhat environmentally effective but not at all cost efficient).

For a large portion of member businesses of the Board of Trade of Metropolitan Toronto, it is very important that they have a public image of being environmentally proactive.

5.3 Packaging Association of Canada

The Packaging Association of Canada has nine hundred member businesses, thirty-five to forty percent of which have operations in the Greater Toronto Area.

There is no "typical" type(s) of waste generated by member businesses since the make-up is so diverse.

The Packaging Association representative noted that ninety percent of member businesses are supportive of waste reduction as a goal for individual businesses.

The representative estimated the percentage of member businesses' involvement in 3Rs initiatives as follows:

60%	implementing packaging changes to reduce waste
40%	implementing purchasing practices that promote 3Rs
35%	reducing materials used
80%	separating materials for garbage and recycling
35-40%	using recycled materials
Almost All	implementing technological changes to reduce waste
80%+	contracting a waste hauler that takes recyclables

The association has developed a National Packaging Protocol (NAPP) concept and a Task Force with the goal of harmonizing regulations and guidelines.

The Packaging Association participates in OMMRI and Provincial initiatives. Further, the Association follows international issues such as the possible harmonization of packaging practices in North America. The Association is lobbying California to change its 65% required recycled content in glass bottles.

The Packaging Association representative rated the importance of the following to member businesses' 3Rs involvement:

Employee Interest	Very Important
Cost Competitiveness	Very Important
Response to/Anticipation of Regulation	Very Important
Environmental Concern	Very Important
Good for Public Image	Important to Not Very Important
Easily Implementable	Very Important
Landfill Tipping Fees	Important to Not Very Important
Shareholder Interest	Important to Not Very Important
Other:	
Government Procurement Policies	Very Important
Market Development	Very Important

Cost-competitiveness was rated as the most important influencing factor for member businesses' involvement in 3Rs initiatives, although it was also noted that, currently, 3Rs initiatives are not easily implementable.

The Packaging Association of Canada representative noted that companies are reluctant to publicize their efforts, fearing that the public will perceive a public relations initiative rather than a 3Rs initiative.

The lack of government support to purchase products was also cited as an important factor to stimulate member businesses' involvement in 3Rs. It was noted that the government is reluctant to pay more for recycled products.

Though companies have moved to more environmentally sound products, many consumers are hesitant to buy these products, fearing substandard quality, higher prices and more effort. The Association representative predicted a ten year period of change for consumer behaviour.

Size of businesses is a determining factor in the implementation of 3Rs programs.

Obstacles to the implementation of 3Rs programs include: costs; lack of markets; and, technological changes that are essential but costly.

The Packaging Association of Canada representative highlighted some 3Rs regulations/guidelines and principles that have adversely affected the member businesses. They are:

- Deposit systems discourage blue box use; there is a need for profitable blue box items;
- Purchasing policies by government that support recycled content are lacking; and,
- The general Association belief is that government does not understand the economies of scale necessary to develop recycling industries.

All member businesses have had significant changes in daily operations due to 3Rs initiatives.

Liability for companies dealing with refillable containers might become an issue in the future depending on what fluid is in a container at any one time.

Management has been noted as being more enthusiastic to 3Rs program adoption than workers who are more concerned with keeping their jobs.

The Packaging Association of Canada believes that tipping fees in Ontario are at the right rate and cross-border waste export is lower than reported in the media.

To support members' increased participation in 3Rs programs, the Association would like to see the following:

- . Government procurement of recycled products;
- . Tax incentives for recycling research and development;
- . Cooperative enterprises between business and government; and,
- . Harmonization of regulations.

Many businesses in the Packaging Association of Canada have implemented 3Rs programs other than recycling.

The Association desires a closer consultative role with the government to help them realize the economic consequences of certain initiatives. The Association would welcome multi-stakeholder round table consultation rather than interviews to discuss issues.

5.4 Canadian Federation of Independent Business

The Federation has approximately 83,000 members nationally: ten percent have operations in the Greater Toronto Area.

There are no "typical" types of waste generated because the Federation membership is so diverse.

There is a strong commitment to the environment and waste reduction as a goal for individual businesses.

The Federation's representative offered general measurements of members' involvement in 3Rs initiatives as follows:

- . Very few adopted packaging changes to reduce waste;
- . The majority adopted purchasing practices that promote 3Rs;
- . The majority have reduced materials used;
- . There is no data regarding separation of materials;
- . The majority have adopted the use of recycled materials;
- . Member businesses are too small for technological changes; and,
- . Very few contract a waste hauler to take recyclables.

The Association's role in waste management for its members includes:

- . The Federation conducted an environmental survey and distributed the results to

businesses;

- . The Federation published an environmental checklist for small businesses in cooperation with Pollution Probe, as a response to a general lack of information for small businesses; and,
- . The Federation participated in the Canadian Standards Association development of Environmental Management Standards that recognize small business needs.

The Federation's representative rated a list of issues that relates to encouraging involvement in 3Rs activities as follows:

- | | |
|---|--------------------|
| . Employee Interest | Very Important |
| . Cost-Competitiveness | Important |
| . Response to/Anticipation of Regulations | Not Very Important |
| . Environmental Concern | Very Important |
| . *Good for Public Image | Not Very Important |
| . Easily Implementable | n/a |
| . Landfill Tipping Fees | Important |
| . Shareholder Interest | n/a |

* Small businesses are not involved in much PR work.

Other:

- . Collection Infrastructure Very Important
Collection infrastructure is important as many small businesses are and could be served by municipal waste haulage, recyclable collection and toxic taxes.

Though there is a difference in response to or developing 3Rs initiatives by size of business, only 1.5% have more than one hundred employees.

The main obstacles to adopting 3Rs programs are:

- . Market infrastructure and the costs of collection;
- . Availability of cost effective technologies; and
- . Lack of information that is appropriate to small business.

Any regulations were noted by the Federation representative as negative, especially to small businesses. For example, calculating sales tax is ten to twenty times more expensive for small businesses than larger companies.

Changes to day-to-day operations of member businesses have occurred, but these changes are as diverse as the membership and have been implemented in response to specific circumstances.

There has been positive response to 3Rs initiatives by the various levels in small businesses (workers, managers, owners).

Tipping fees were cited as creating competitive disadvantages for small businesses. The Federation of Independent Business believes that there is an inequitable distribution of waste management costs between the IC&I and residential sector, where IC&I carries the bulk of the costs. In particular, this puts small businesses at a disadvantage. The Federation would like to see true cost accounting for fees.

3Rs initiatives that will be adopted over the next two years will depend on the specific business.

To provide support for increased participation in waste diversion, the Federation would like:

- a healthier economy;
- a toxic taxi for small business; and,
- an infrastructure for markets and an improved collection system.

Member businesses in the Federation are too small to implement technological processes to reduce waste.

The Federation of Independent Business cited the following as important factors for the IC&I sector in establishing a waste management strategy for large urban areas:

- fairness of costs;
- consistent regulations; and,
- pay-per-use.

The Federation wants to be consulted by government on any relevant issues. The Federation would like the opportunity to view draft by-laws and reports, and to be contacted during the preparation of documents.

5.5 The Toronto Board of Education

There are one hundred and fifty seven schools in the Toronto Board of Education. Except for the outdoor education school, all are located in the Greater Toronto Area.

The schools typically generated fine paper, paper towels, and lunchroom waste (organic and packaging). Technical studies programs generate metals and printshop materials.

Though the Board has issued a recycling directive it is up to the individual school to implement programs. All have done so to varying degrees.

The Board's representative rated the following 3Rs initiatives in which schools are involved:

- 45% Implementing packaging changes
- 100% Modifying purchasing practices
- 50% Reducing the amount of materials used
- 100% Separating materials for garbage and recycling

Wherever possible recycled materials are used, without sacrificing quality or safety. The City of Toronto collects waste and blue box materials. Collection of fine paper, books and printer ribbons for recycling is contracted out.

The Recycling Coordinator of the Board of Education has produced a recycling handbook for the schools.

The Toronto Board of Education representative measured the following as determining factors for schools' involvement in the 3Rs:

Employee Interest	Important
Cost-Competitiveness	n/a
*Response to/Anticipation of Regulations	Not Very Important
Environmental Concern	Not Very Important
Good for Public Image	Important
Easily Implementable	Important
Landfill Tipping Fees	n/a
Shareholder Interest	n/a

* The Recycling Coordinator regards regulations as very important but schools and/or teachers may not.

Smaller schools (usually elementary) have better 3Rs programs than larger schools (usually secondary).

As the obstacles to the implementation of 3Rs programs, the Board's representative noted:

- . staff have other priorities;
- . lack of interest;
- . failure to be mandated by the Province; and,
- . lack of support from staff/secondary students (the main obstacle).

The cleaning staff have had to modify their daily operations to handle garbage and recyclables. Caretakers do not believe separating waste is in their job description, but this attitude is gradually changing.

There have been concerns about the storage of materials and students carrying blue boxes full of glass bottles. However, no legal liability problems have occurred.

Mandated participation may be required for some staff, but some do not want their activities mandated.

Full participation and cooperation of staff and students in the 3Rs initiatives outlined in the Recycling Handbook, and increased awareness of what is being thrown out (through audits) are priorities for the next two years.

The implementation of a MOEE reporting mechanism that would require every school to document its 3Rs activities, and continued funding for waste diversion programs, would help to support participation in 3Rs activities.

Reducing litter at lunchtime, reusing paper, and pilot composting programs have been implemented in addition to recycling programs.

Increased awareness by staff and students about the quantity and type(s) of waste being generated through educational materials, waste audits, and the inclusion of waste management issues into the curriculum through Ministry of Education Guidelines, would increase staff and student participation in 3Rs initiatives.

Educational and promotional materials are provided through an MOEE grant program. However, some of the material is irrelevant for schools. The Board's representative noted that every association has different approaches to 3Rs initiatives and information should be specific to the association or the approach. Grants to produce educational and promotional materials in-house would be helpful.

The Toronto Board of Education wants the opportunity to provide input when MOEE is developing 3Rs policies/regulations.

5.6 The Toronto Construction Association

The Association has 1,200 member companies, all with offices in the Greater Toronto Area.

There is a variety of construction, demolition and packaging waste generated by member companies.

Member businesses support waste reduction as individual companies and through the Association.

Member companies are primarily involved in reusing and recycling materials to reduce waste.

The Association has provided to member businesses:

- education (seminars, information sharing);
- representation to MOEE (comments on policy and papers); and
- involvement in developing code of ethics.

As issues that influence involvement in 3Rs initiatives, the Association's representative rated:

- | | |
|---|----------------|
| • Cost Competitiveness | Very Important |
| • Response to/Anticipation of Regulations | Very Important |
| • Environmental Concern | Important |
| • Landfill Tipping Fees | Very Important |

There is a difference in the size of business in response to or development of 3Rs programs.

The representative noted the following obstacles to implementing 3Rs initiatives:

- lack of space on construction sites for source separation;
- financially not always worthwhile;
- operationally, not all workers understand or have the time;
- lack of markets;
- occasional contamination of materials by neighbours; and,
- illegal dumping in warehouses.

Tipping Fees and Landfill Bans were cited as regulations/policies that have adversely affected member businesses.

Businesses have had significant day-to-day changes operationally, financially and administratively.

Management has responded well to 3Rs programs. Poor communication between management and workers may have stalled increased participation by workers in 3Rs programs.

In the next two years there will be continued education and continued representation to the MOEE by the Toronto Construction Association.

To support member participation in waste diversion programs, the Association would like:

- government response to Association concerns;
- continued participation in policy development; and,
- government awareness of financial and operational realities.

The Association, as a major waste generator with the potential to divert a significant amount of waste, would welcome a partnership relationship with government to deal with waste diversion problems.

5.7 Canadian Council of Grocery Distributors

The Council has twenty three member associations, with fifty five subsidiaries.

The waste typically generated by member associations is made up of food, food packaging, and transportation packaging.

There is wide support for waste reduction as a goal for individual members.

The Council's representative measured member participation in the following 3Rs initiatives:

Packaging changes to reduce waste	Almost All
Purchasing practices that promote 3Rs	Many
Reduction of materials used	All
Separation of materials for garbage and recycling	Many
Use of recycled materials	Almost All
Technological changes to reduce waste	n/a
Contract a waste hauler that takes recyclables	All

The role of the Council in waste management endeavours for its members includes:

- sharing educational material;
- sharing information;
- advising members;
- working with environmental groups; and,
- lobbying efforts with government.

The Canadian Council of Grocery Distributors representative rated items that encourage company involvement in 3Rs activities as follows:

• Employee Interest	1
• Cost Competitiveness	1
• Response to or Anticipation of Regulations	2
• Environmental Concern	1
• Good for Public Image	1
• Easily Implementable	1
• Landfill Tipping Fees	2
• Shareholder Interest	unknown-some privately held companies
• Other	

Being environmentally active is now part of normal corporate culture. It is important for younger people and a competitive advantage for companies.

Size is an important factor in implementing 3Rs initiatives. Members that are part of chains have more financial and administrative resources than those businesses that are franchises or independent.

The main obstacles for members' implementation of 3Rs programs are:

- Health, hygiene and safety issues;
- Lack of markets for recyclables; and,
- Space and labour limitations in stores.

There is concern from Association members about potential regulations. These include:

- Returnable bottle legislation. Concern about health, safety and cost.
- Possible landfill ban on food would eliminate the constant site needed by members to which they can direct food that cannot be donated or sold.

Members have undergone significant day-to-day operational changes which vary according to the specific business.

As a possible legal liability problem, the Council's representative cited health concerns from possible returnable bottle and recycled packaging legislation.

Management and unions are working together on 3Rs industry initiatives. The Canadian Council of Grocery Distributors is working with the Grocery Product Manufacturers Council and United Food and Commercial Workers Union on 3Rs initiatives.

Increased waste management costs, that are added to other industry costs and then passed onto the consumer, creates a competitive disadvantage for members.

In the next two years the Council will:

- continue existing 3Rs efforts;
- continue support for OMRI; and,
- work on Industry Packaging Stewardship Model.

As examples of initiatives that would support members' participation in waste management initiatives, the Council representative cited:

- The need to develop a level playing field. The Grocery sector believes it is paying an inequitable portion of societal waste management costs; and,
- The need for market development for recyclable materials.

Waste management programs, aside from recycling, include selling food waste for animal feed and donating food to food banks.

The Council would like a joint industry and government role in the development of promotion and educational material to members.

There is a preference for direct consultation with the government rather than having a consultant report on the Council's role with policy development.

The Ontario Environmental Affairs Committee of the CCGD meets every 3 or 4 months to discuss government regulation and to deal with government consultation issues.

6.0 Industrial, Commercial, And Institutional Survey

Association Name:

Contact Person:

Telephone Number:

Date of Interview:

How many companies are in your association?

What percentage of the firms in your association have business operations in the Greater Toronto Area? (Municipalities of York, Metro, Durham, Peel & Halton)

What are the typical types of waste generated by your members (food waste, packaging, etc.)?

Do member businesses support waste reduction as a goal for their individual businesses?

I'm going to read a list of 3Rs initiatives that some companies are involved in. Can you tell me approximately what percentage of your association members are involved in each type of these initiatives?

INITIATIVES

Packaging Changes to reduce waste _____

Purchasing practices that promote 3Rs _____

Reduction of materials used _____

Separation of materials for garbage and recycling _____

Use of recycled materials _____

Technological Changes to Reduce Waste _____

Contract a Waste Hauler that takes recyclables _____

What role has your association played in waste management for your members? (eg. sharing of educational material)

I'm going to read a list of items that could encourage company involvement in 3Rs activities? Please identify whether these items were; (1) Very Important, (2) Important, (3) Not Very Important, or (4) Not Important at all in determining your member companies involvement in the 3Rs?

Employee Interest	_____
Cost-Competitiveness	_____
Response to or anticipation of regulation	_____
Environmental Concern	_____
Good for Public Image	_____
Easily Implementable	_____
Landfill Tipping Fees	_____
Shareholder Interest	_____
Other	_____

Is there a difference in response to or developing 3Rs initiatives by size of company in your association?

What do you think are the main obstacles for your members in the implementation of 3Rs programmes? (Do not read - check as many as apply)

1. Costs of Implementation	_____
2. Lack of Markets for Recyclables	_____
3. Difficulty and Changes to Regulations	_____
4. Lack of Effectiveness of Existing Programs	_____
5. Lack of Knowledge on 3Rs	_____
6. Other	_____

Of the obstacles you have just mentioned, which would you say is the biggest obstacle for your members?

Can you identify any 3Rs regulations or guidelines that have adversely affected your members? (List of them to check)

Do you know if any of your members had significant changes to their day-to-day operations as a result of any 3Rs initiatives? (If yes, probe for type of changes)

Are you aware of any safety or legal liability problems that have been created by 3Rs initiatives?

How have workers, management, and unions responded to 3Rs initiatives?

How do the current waste management requirements such as landfill bans, tipping fees, and user fees, create any competitive disadvantages/advantages for any of your members, particularly, when competing with companies outside of Ontario?

What 3Rs actions are the association and member businesses considering for the next two years?

What could be provided to support your member's participation in waste diversion?

Have your members been involved in developing waste management strategies that look at more efficient processes and technologies (for example, the more efficient use of product inputs and improved technology), rather than strictly recycling programs? (Are they looking at such strategies in this area for the future)?

What factors do you think would increase your members participation in the 3Rs?
(Do not read, check off when mentioned)

More information about 3Rs	_____
Improved collection of recyclable materials	_____
Improved Markets for Recyclables	_____
Lower costs of recycling	_____
Increased 3Rs education	_____
Landfill Bans on some Materials	_____
Government financial assistance to businesses to expand their 3Rs initiatives	_____

Waste Audits and Waste Reduction Plans

None of the Above

Other (list)

What would you say are the most important factors for the Industrial and Commercial sectors in developing a waste management strategy for a large urban area, like the Greater Toronto Area? (Do not read, List)

Costs to Private Sector

Public Opinion

Greatest Waste Diversion

Least expensive option for government

Other

One option for waste management that other regions have considered is to have residents, businesses and industries separate their waste into different categories called streams. Typically, there are two or three streams. For example, in a 3-stream system waste is separated into (1) Food Waste, (2) Dry Recyclable Waste, such as cardboard or glass, and (3) Garbage. How do you think your members would respond to this type of waste management system? **(NOTE TO INTERVIEWERS: FOR NON-HOTEL, RESTAURANT, AND FOOD PROCESSING ASSOCIATIONS, CHANGE TO ONLY TWO STREAM SYSTEM OF DRY RECYCLABLES AND GARBAGE).**

Are 3Rs educational or promotional materials requested by your members? Who do you think should provide these materials?

How would your association like to be consulted on your future involvement in 3Rs activities?

How important do you think it is to your members to have a public image that is proactive on environmental issues?

SCHEDULE E

Facility Operator Interview Summary

SCHEDULE E:

FACILITY OPERATOR INTERVIEW SUMMARY

1.0 Facility Selection Criteria/Approach

Facility operator interviews were conducted by Hardy Stevenson and Associates and MM Dillon in April, 1993. The interview list of facilities and facility operator representatives was developed based on Resource Integration Systems (RIS) expertise and knowledge of North American facilities.

The facilities selected for interview included those in the Greater Toronto Area (GTA) as well as international examples of public and private, operating/non-operating and, successful/non-successful:

- . leaf and yard waste composting facilities,
- . wet/dry composting facilities,
- . IC&I composting facilities,
- . in-vessel composting facilities,
- . mixed waste processing facilities,
- . regional blue box processing facilities (MRFs),
- . wet/dry processing facilities,
- . IC&I processing facilities and,
- . household hazardous waste (HHW) collection facilities.

The interview for facility operators (See page D-14) was comprised of nine questions regarding:

- . present and future 3Rs trends in the residential and the IC&I sectors,
- . behaviours and attitudes of 3Rs practices in the residential and IC&I sectors,
- . systemic social and/or biophysical impacts and/or effects of facility operations,
- . complaints registered because of facility operations,
- . mitigation measures considered and/or implemented and,
- . quality and quantity of materials managed.

2.0 List of Facility Operators and Key Contacts

The following is a complete list of facilities and facility operators/administrators interviewed and the date of the interviews.

1. Region of Durham Recycling Centre
Peter Watson
April 6, 1993
2. Township of Pittsburgh Compost Facility
John Rhodes
April 6, 1993
3. Region of Ottawa-Carleton HHW Depot
Phil Lefebvre
April 6, 1993
4. Scott's Composting Farm
Jim Scott
April 6, 1993
5. Wright County Compost Facility (Minnesota, U.S.A.)
Chuck Davis
April 6, 1993
6. City of Scarborough Composting Facility
Debra Dale
John Minor
Ian John Ashton
April 8, 1993
7. Waste Management Inc. Dry Recyclable Facility
Steve Osbourne
April 8, 1993
8. City of Mississauga Pilot Scale Compost Facility
Jim Cuthill
Paul Taylor
April 12, 1993

9. Metro Commissioners St. MRF
Bob Sawyer
April 13, 1993
10. Metro Toronto Avondale Leaf Composting Area
Caesar Corvinelli
April 14, 1993
11. Metro Toronto Dufferin Compost Facility
Bob Sawyer
April 14, 1993
12. City of Sarnia Compost Facility
Ken McKenzie
April 15, 1993
13. Reidel Corporation (City of Portland)
Jeep Reid
April 15, 1993
14. Region of Halton Wet/Dry Compost Pilot
John Smith
April 16, 1993
15. Hensall Composting Facility
Mark Jacobs
April 16, 1993

(Five other facility operator interviews were not conducted because the operators did not return telephone calls).

3.0 Summary of Social Effects by Facility Type

NB: The same questions were applied to all facility types. Therefore, the questions will only be noted once in this document.

3.1 Leaf and Yard Waste Composting Facility

3.1.1 Odour

When asked:

Have there been any impacts on people, businesses, land, air, ground water from the operation of the facility?

Have there been any complaints about the operation of the facility?

How have these identified effects been mitigated?

The most frequently registered complaint regarding leaf and yard waste composting is that of odour. This effect has been reported at three of the five leaf and yard waste composting facilities interviewed.¹

3.1.2 Scavenging Animals and Birds

Of the five leaf and yard waste composting facilities surveyed, only one stated any scavenging animal or bird effect associated with the facility.²

3.2 Wet/Dry Composting Facilities

¹ The employees of The Township of Pittsburgh, Ontario Leaf and Yard Waste Composting Facility were effected by odour emitted from the 200 tonnes of food processing seeds brought to the site. This has been mitigated with a more frequent turning of windrows (Rhodes, John, 1993 Township of Pittsburgh Leaf and Yard Waste Composting Facility. Personal Communication with Larry Fedec, MMD, April 6, 1993).

The Metro Toronto Avondale Leaf Composting Area registered "one or two" (Corvinelli, Caesar, 1993. Metro Toronto Leaf Composting Area. Personal Communication with Larry Fedec, MMD, April 14, 1993) odour complaints. However, Mr. Corvinelli is not sure if the odour was emitted from the compost site or the landfill site directly adjacent to it.

The City of Scarborough Composting Facility received many odour complaints. This effect was mitigated by contracting the operation of the facility to Compost Management Inc. which turns the material more frequently. The contract for operations between the City of Scarborough and Compost Management Inc. is tied to no more odour effects (Dale, Debra, 1993. City of Scarborough Composting Facility. Personal Communication with Elizabeth Margles, HSA, April 8, 1993).

² The City of Scarborough Leaf and Yard Waste Composting Facility has noted an increase in killdeer birds congregating at the site, searching for food. This has not been mitigated.

The same facility has noticed an increase in insects at the leaf and yard waste composting site. The insects remain localized though, and therefor have not caused an effect on residents.

3.2.1. Odour

Of the two wet/dry composting facilities surveyed, one noted an odour effect.³

3.2.2 Noise

Again, one of two surveyed wet/dry composting facilities noted a noise effect, which has since been mitigated.⁴

3.2.3 Scavenging Animals and Birds

One facility experienced an increase in seagulls circling the facility. This has not been mitigated.⁵

3.3 IC&I Composting Facilities

3.3.1 Odour

One IC&I compost facility was surveyed. The facility's operations caused significant odour effect for local residents. The facility was shut down until the effects were corrected.⁶

³ Compost Management Inc.'s Paul Taylor and Harmony Planning Consultants' Jim Cuthill noted that two "minor" (Cuthill, Jim and Taylor, Paul, 1993. Harmony Planning Consultants and Compost Management Inc.. Personal Communication with Elizabeth Margles, HSA. April 12, 1993) odour effects were indicated by residents. Representatives of the two companies visited the residents experiencing the odour effect, explained the composting process and occasionally provide these residents with compost for their gardens. This seems to have solved the problem.

⁴ Trucks unloading material at the City of Mississauga Pilot Scale Compost Facility created a noise effect for a nearby cemetery. Funeral and burial services were disrupted by the back-up noises from the facility trucks. This has been mitigated by consideration of the facility staff not to back-up trucks during inopportune times.

⁵ The City of Mississauga Pilot Scale Compost Facility is attracting seagulls. Noisemakers were used initially to frighten away the gulls, but this created too much noise. The management is considering using birds of prey to frighten the gulls, but this is an expensive undertaking - approximately \$50 000 a year to maintain. (Cuthill, Jim and Taylor, Paul, 1993. Harmony Planning consultants and Compost Management Inc.. Personal Conversation with Elizabeth Margles, HSA. April 12, 1993).

⁶ Scott's Composting Farm received numerous odour complaints from residents. The facility was shut down until the operations were contracted to Compost Management Inc. whose staff manage and mix the compost to reduce significantly any odour. (Scott, Jim, 1993. Scott's Composting Farm. Personal Communication with Elizabeth Margles, HSA, April 6, 1993)

3.3.2 Traffic

This facility received a few complaints regarding traffic tie-ups due to trucks making left hand turns into the facility. There are eight more trucks per day when the facility is operating and the effect has been minimal.⁷

3.3.3 Economics

The operator of this privately owned composting facility was concerned that his business was suffering because of waste being hauled over the border to the U.S..⁸

3.4 In-Vessel Composting Facilities

3.4.1 Odour

One in-vessel facility was surveyed. The operator stated that odour had been an effect, which has since been mitigated.⁹

3.5 Mixed Waste Processing Facilities

3.5.1 Odour

Odour effects on residents were a problem at both the mixed waste processing facilities surveyed. One facility mitigated the effect with a new design feature. One facility was closed after nine months of operation.¹⁰

⁷ Scott's Composting Facility(Ibid).

⁸ Jim Scott believes that too much waste is being hauled over the border to the U.S. because their tipping fees are "artificially low"(Ibid)

⁹ Bob Sawyer at the Metro Toronto Dufferin Compost Facility stated that there had been odour effects. However, a biofilter was installed which solved the effect.(Sawyer, Bob 1993. Metro Toronto Dufferin Compost Facility. Personal Communication with Larry Fedec, MMD April 14, 1993.)

¹⁰ The Wright County Compost Facility in Minnesota received three odour complaints from local residents. Two of these complaints were received before a biofilter was installed, which seems to have solved the problem.(Davis, Chuck 1993. Wright county Compost Facility. Personal Communication with Elizabeth Margles, HSA, April 6, 1993)

The Reidel Corporation compost Facility in Portland, Oregon received numerous odour complaints from local

3.5.2 Scavenging Animals, Birds and Insects

An increase in flies in the summer has been noted at one facility. However, the increase is no more significant than at a typical farm. The other facility has experienced a severe rodent and gull effect.¹¹

3.5.3 Emission/Air Quality

One facility noted a fog effect at the compost site. Loss of moisture from the compost pile due to forced aeration caused an extensive fog problem. This was not mitigated and the facility was closed.¹²

3.5.4 Dust

The staff at this same facility experienced a dust effect inside the processing building. The effect was mitigated.¹³

3.6 Residential Blue Box MRF Facilities

3.6.1 Odour

There were a few odour complaints registered at one of the two facilities surveyed.¹⁴

residents. The facility was closed after nine months of operation.(Reid, Jeep 1993. City of Portland. Personal Communication with Larry Fedec, MMD April 15, 1993)

¹¹ Davis, Chuck 1993. Wright County Compost Facility. Personal Communication with Elizabeth Margles, HSA. April 6, 1993.

The Reidel Corporation's compost site was effected with a severe rodent and bird problem. Pest control was initiated but the facility was closed after nine months of operation.(Reid, Jeep 1993. The City of Portland. Personal Communication with Larry Fedec, MMD. April 15, 1993)

¹² Ibid

¹³ The Reidel Corporation facility installed modifications inside the processing facility to collect dust.(Ibid)

¹⁴ The Region of Durham Recycling Centre. (Watson, Peter, 1993. Region of Durham Recycling Centre. Personal Communication with Larry Fedec, MMD, April 6, 1993.)

3.6.2 Litter

Both of the MRF facilities interviewed noted a litter effect. Both facilities have mitigated the effect.¹⁵

3.7 Wet/Dry Processing Facility

The facility surveyed was a pilot project that was too small for appropriate evaluation.¹⁶

3.8 IC&I Processing Facility

To date, the facility surveyed has not registered any complaints or effects related to its operations.¹⁷

3.9 Household Hazardous Waste Permanent Depot

To date, the facility surveyed has not registered any complaints or effects related to its operations.¹⁸

4.0 Summary of General Findings

¹⁵ There were complaints about the litter scattered along the access roads to the Region of Durham Facility. This has been mitigated by directing staff from the facility to pick up the litter surrounding the site. (Watson, Peter 1993. Region of Durham Recycling Centre. Personal Communication with Larry Fedec, MMD April 6, 1993)

The staff at the Metropolitan Toronto MRF have been proactive in controlling a litter effect. Staff habitually collects litter surrounding the facility, no complaints have been registered. (Sawyer, Bob 1993. Metro Toronto MRF. Personal Communication with Jonathan Kauffman, HSA April 13, 1993)

¹⁶ City of Guelph Wet/Dry Pilot Project. (Laird, Janet 1993. City of Guelph Wet/Dry Pilot Project. Personal Communication with Phil Shantz April 1993)

¹⁷ Waste Management Inc. Dry Recyclable Facility. (Osbourne, Steve 1993. Waste Management Inc.. Personal Communication with Elizabeth Margles, HSA. April 8, 1993)

¹⁸ Region of Ottawa-Carleton Household Hazardous Waste Depot. (Lefebvre, Phil 1993. Region of Ottawa-Carleton Household Hazardous Waste Depot. Personal Communication with Larry Fedec, MMD. April 6, 1993)

4.1 Siting Studies/Assessments

When asked:

Were any studies undertaken to site your facility and to predict possible biophysical and social environment effects associated with the facility?

- Eight facilities did not undertake any siting studies.¹⁹
- Three facilities undertook limited studies to assess noise, traffic and/or run-off.²⁰
- One facility undertook an extensive environmental assessment.²¹

¹⁹ Waison, Peter 1993. The Region of Durham Recycling Centre. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Rhodes, John 1993. Township of Pittsburgh, Ontario Leaf and Yard Waste Composting Facility. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Scott, Jim 1993. Scott's Composting Farm (IC&I). Personal Communication with Elizabeth Margles, HSA. April 6, 1993.

Corvinelli, Caesar 1993. Metro Toronto Avondale Leaf Composting Area. Personal Communication with Larry Fedec, MMD. April 14, 1993.

Sawyer, Bob 1993(b). Metro Toronto Dufferin Compost Facility. Personal Communication with Jonathan Kauffman, HSA. April 14, 1993.

McKenzie, Ken 1993. City of Sarnia Leaf Compost Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993.

Smith, John 1993. Region of Halton Wet/Dry Compost Pilot. Personal Communication with Larry Fedec, MMD. April 16, 1993.

Jacobs, Mark 1993. Hensall Composting Facility. Personal Communication with Larry Fedec, MMD. April 16, 1993.

²⁰ Lefebvre, Phil 1993. Region of Ottawa-Carleton Household Hazardous Waste Depot. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Sawyer, Bob 1993(a). Metro Commissioner's St. MRF. Personal Communication with Jonathan Kauffman, HSA. April 13, 1993.

Reid, Jeep 1993. Reidel Corp. for the City of Portland, Oregon Mixed Waste Processing Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993.

²¹ Davis, Chuck 1993. Wright county Mixed Waste Composting Facility. Personal Communication with Elizabeth Margles, HSA. April 6, 1993.

Three facilities followed the Ministry of Environment's guidelines for a Certificate of Approval.²²

4.2 Predicted/Anticipated Effects and Mitigation Measures

When asked:

What potential biophysical and social environment effects were predicted and how were they to be mitigated?

Does the facility include any design features intended to reduce potential effects?

- Two facilities did not predict any effects and neither included design features to reduce potential effects.²³
- Thirteen facilities predicted at least one effect and included design features to reduce potential effects.²⁴

²² Dale, Debra 1993. City of Scarborough Leaf and Yard Waste Composting Facility. Personal Communication with Elizabeth Margles, HSA. April 8, 1993.

Osbourne, Steve 1993. Waste Management Inc. Dry Recyclable Facility. Personal Communication with Elizabeth Margles, HSA. April 8, 1993.

Cuthill, Jim and Taylor, Paul 1993. Harmony Planning Consultants and Compost Management Inc. Personal Communication with Elizabeth Margles, HSA. April 12, 1993.

²³ Dale, Debra 1993. City of Scarborough Composting Facility. Personal Communication with Elizabeth Margles, HSA. April 8, 1993.

Osbourne, Steve 1993. Waste Management Inc. Dry Recyclable Facility. Personal Communication with Elizabeth Margles, HSA. April 8, 1993.

²⁴ Lefebvre, Phil 1993. Region of Ottawa-Carleton Household Hazardous Waste Depot. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Sawyer, Bob 1993(a). Metro Toronto Commissioners St. MRF. Personal Communication with Jonathan Kauffman, HSA. April 13, 1993.

Watson, Peter 1993. Region of Durham Recycling Centre. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Rhodes, John 1993. Township of Pittsburgh, Ontario Leaf and Yard Waste composting Facility. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Davis, Chuck 1993. Wright County Compost Facility. Personal Communication with Elizabeth Margles, HSA. April 6, 1993.

4.3 Facilities Located at Existing Waste Management Sites or on Municipally-Owned Land

Of the fifteen facilities surveyed:

- Four facilities were sited on lands with existing landfills or waste transfer stations.²⁵
- Three facilities were sited on municipally-owned land.²⁶

Scott, Jim 1993. Scott's Composting Farm. Personal Communication with Elizabeth Margles, HSA. April 6, 1993.

Cuthill, Jim and Taylor, Paul 1993. Harmony Planning consultants and Compost Management Inc. for the City of Mississauga Pilot Scale Composting Facility. Personal Communication with Elizabeth Margles, HSA. April 12, 1993.

Corvinelli, Caesar 1993. Metro Toronto Avondale Leaf Composting Area. Personal Communication with Larry Fedec, MMD. April 14, 1993.

Sawyer, Bob 1993(b). Metro Toronto Dufferin Compost Facility. Personal Communication with Jonathan Kauffman, HSA. April 14, 1993.

McKenzie, Ken 1993. City of Sarnia Compost Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993.

Reid, Jeep 1993. Reidel Corp. for the City of Portland, Oregon Mixed Waste processing Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993.

Smith, John 1993. Region of Halton Wet/Dry Compost Pilot Project. Personal Communication with Larry Fedec, MMD. April 16, 1993.

Jacobs, Mark 1993. Hensall Composting Facility. Personal Communication with Larry Fedec, MMD. April 16, 1993.

²⁵ Sawyer, Bob 1993(a). Commissioners St. MRF. Personal Communication with Jonathan Kauffman, HSA. April 13, 1993.

Rhodes, John 1993. Township of Pittsburgh, Ontario Leaf and Yard Waste Composting Facility. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Smith, John 1993. Region of Halton Wet/Dry Compost Pilot. Personal Communication with Larry Fedec, MMD. April 16, 1993.

Jacobs, Mark 1993. Hensall Composting Facility. Personal Communication with Larry Fedec, MMD. April 16, 1993.

²⁶ Watson, Peter 1993. Region of Durham Recycling Centre. Personal Communication with Larry Fedec, MMD. April 6, 1993.

McKenzie, Ken 1993. City of Sarnia Compost Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993.

Corvinelli, Caesar 1993. Metro Toronto Avondale Leaf Composting Area. Personal Communication with Larry Fedec, MMD. April 14, 1993.

4.4 Facility Employment

When asked:

How many people are employed in the operation of the facility?

Are the employees full-time, part-time, unionized?

• Eleven facilities employ twenty-five or fewer staff.²⁷

²⁷ The Region of Ottawa-Carleton Household Hazardous Waste Depot employs ten people in the winter, but up to three hundred in the summer. (Lefebvre, Phil 1993. Region of Ottawa-Carleton Household Hazardous Waste Depot. Personal Communication with Larry Fedec, MMD. April 6, 1993).

The Township of Pittsburgh, Ontario Leaf and Yard Waste Compost Facility employs four full-time staff. Occasionally 100 inmates from the Joyceville Penitentiary debag leaves. (Rhodes, John 1993. Township of Pittsburgh, Ontario Leaf and Yard Waste Compost Facility. Personal Communication with Larry Fedec, MMD. April 6, 1993).

The City of Scarborough employs eight half-time facility staff, in that they have other responsibilities in the municipality. There are one hundred and fifty trucking staff which are unionized. (Dale, Debra 1993. City of Scarborough Composting Facility. Personal Communication with Elizabeth Margles, HSA. April 8, 1993.)

Wright County Compost Facility employs seventeen full-time staff and three part-time staff. (Davis, Chuck 1993. Wright County Compost Facility. Personal Communication with Elizabeth Margles, HSA. April 6, 1993.)

Scott's Composting Farm employs five full-time staff. (Scott, Jim 1993. Scott's Composting Farm. Personal Communication with Elizabeth Margles, HSA. April 6, 1993.)

The City of Mississauga's pilot project employs two full-time staff. (Cuthill, Jim and Taylor, Paul 1993. Harmony Planning Consultants and Compost Management Inc.. Personal Communication with Elizabeth Margles, HSA. April 12, 1993.)

The Avondale facility employs twelve full-time staff. (Corvinelli, Caesar 1993. Metro Toronto Avondale Leaf Composting Area. Personal Communication with Larry Fedec, MMD. April 14, 1993)

Metro's Dufferin facility employs five full-time and one part-time staff. (Sawyer, Bob 1993(a). Metro Toronto Dufferin Compost Facility. Personal Communication with Jonathan Kauffman, HSA. April 14, 1993.)

Sarnia's compost facility employs one full-time and three part-time staff. (McKenzie, Ken 1993. City of Sarnia Compost Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993.)

Halton employs two full-time staff for their wet/dry composting facility. (Smith, John 1993. Halton Region Wet/Dry Compost Pilot Project. Personal Communication with Larry Fedec, MMD. April 16, 1993.)

The Hensall Composting Facility employs two full-time staff. (Jacobs, Mark 1993. Hensall Composting Facility. Personal Communication with Larry Fedec, MMD. April 16, 1993.)

- Four facilities employ sixty or fewer staff.²⁸
- At least some staff at three facilities are unionized.²⁹
- Twelve facilities employ no unionized staff.³⁰

²⁸ Waste Management Inc. employs sixty full-time staff. (Osbourne, Steve 1993. Waste Management Inc. Dry Recyclable Facility. Personal Communication with Elizabeth Margles, HSA. April 14, 1993).

The Reidel Corporation employs thirty two full-time staff for the City of Portland. (Reid, Jeep 1993. The City of Portland Mixed Waste Processing Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993).

Durham Region employs fifty full-time staff for their recycling facility. (Watson, Peter 1993. Region of Durham Recycling Centre. Personal Communication with Larry Fedec, MMD. April 6, 1993).

Metro employs thirty full-time staff for the Commissioners St. MRF. (Sawyer, Bob 1993(a). Metro Commissioners St. MRF. Personal Communication with Jonathan Kauffman, HSA. April 13, 1993).

²⁹ Some of Scarborough's composting facility staff is unionized. (Dale, Debra 1993. City of Scarborough Composting Facility. Personal Communication with Elizabeth Margles, HSA. April 8, 1993).

The Wright County Compost Facility employs twenty-one unionized staff. (Davis, Chuck 1993. Wright County Compost Facility. Personal Communication with Elizabeth Margles, HSA. April 6, 1993).

Metro's Dufferin Compost Facility employs four unionized staff. (Sawyer, Bob 1993(b). Metro Toronto Dufferin Compost Facility. Personal Communication with Jonathan Kauffman, HSA. April 14, 1993).

³⁰ Lefebvre, Phil 1993. Region of Ottawa-Carleton Household Hazardous Waste Depot. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Sawyer, Bob 1993(a). Metro Commissioners St. MRF. Personal Communication with Jonathan Kauffman, HSA. April 13, 1993.

Watson, Peter 1993. Region of Durham Recycling Centre. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Rhodes, John 1993. Township of Pittsburgh, Ontario Leaf and Yard Waste Compost Facility. Personal Communication with Larry Fedec, MMD. April 6, 1993.

Scott, Jim 1993. Scott's Composting Farm. Personal Communication with Elizabeth Margles, HSA. April 6, 1993.

Osbourne, Steve 1993. Waste Management Inc. Dry Recyclable Facility. Personal Communication with Elizabeth Margles, HSA. April 14, 1993.

Cuthill, Jim and Taylor, Paul 1993. Harmony Planning Consultants and Compost Management Inc. for the City of Mississauga Pilot Scale Compost Facility. Personal Communication with Elizabeth Margles, HSA. April 12, 1993.

Corvinelli, Caesar 1993. Metro Toronto Avondale Leaf Composting Area. Personal Communication with Larry Fedec, MMD. April 14, 1993.

Sawyer, Bob 1993(b). Metro Toronto Dufferin Compost Facility. Personal Communication with Jonathan Kauffman,

5.0 Facility Operator Interview Survey

Facility Name:

Location:

Contact:

Telephone Number:

Fax Number:

Date:

1. Facility Ownership? Public ____ Private ____
2. Were any studies undertaken to site your facility and to predict possible biophysical and social environment effects associated with the facility?
3. What potential biophysical and social environmental effects were predicted and how were they to be mitigated? Does the facility include any design features intended to reduce potential effects? Have you ever had to rely on these features?

HSA. April 14, 1993.

McKenzie, Ken 1993. City of Sarnia Compost Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993.

Reid, Jeep 1993. Reidel Corp. for the City of Portland, Oregon Mixed Waste Processing Facility. Personal Communication with Larry Fedec, MMD. April 15, 1993.

Smith, John 1993. Region of Halton Wet/Dry Compost Pilot Project. Personal Communication with Larry Fedec, MMD. April 16, 1993.

Jacobs, Mark 1993. Hensall Composting Facility. Personal Communication with Larry Fedec, MMD. April 16, 1993.

4. Have there been any impacts on people, businesses, land, air, ground water from the operation of the facility?

- . Spills
- . Emission/Air Quality
- . Odours
- . Noise
- . Dust
- . Traffic
- . Rodents/Birds
- . Other (Specify)_____

5. Have there been any complaints about the operation of the facility?

- . Noise
- . Odour
- . **Rodents/Birds**
- . **Spills**
- . Traffic
- . Dust
- . Trespassing (esp. children)
- . Land Value Concerns
- . Other (Specify)

6. How have these identified effects and complaints been resolved?

- . Installation of new design features
- . Monitoring
- . Operational Change
- . Other (Specify)

7. Do you think that changes in the composition of material managed at your facility would result in any other effects on the biophysical or social environments? If so, what types of effects?

8. Is the quality of material coming to the site consistent month-to-month or does it vary?

9. How many people are employed in the operation of the facility?



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Greater Toronto area
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